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TOP-DRESSING WITH MANURE versus
PLOUGHING UNDER.

It is curious to see how frequently the same questions are started, and how opposite the opinions expressed upon them are. There has recently been revived the old controversy in regard to the relative advantages of top-dressing with manure or of ploughing it under. Years ago we took part in a similar discussion, but the point at issue was not decided, nor will it ever be until a better understanding is reached as to the nature of the particular soil to be improved is taken into consideration. It is upon this that a proper decision of the question mainly depends. When one disputant refers to his experience in respect to a compact clay, and another to a sandy loam, they are arguing from different stand points, and whilst both may be right in respect to their particular experience, both may be wrong when they claim that those experiences enable them to lay down a general rule. Herein lies, in our opinion, the true reason why the controversy has never been satisfactorily settled. We remember, years ago, a similar discussion by prominent members of the New York State Agricultural Society. One of the speakers invariably ploughed manure well under, and early in the spring took off three crops in rotation—1st, corn; 2d, barley; 3d, wheat, and with the latter seeded down to clover. He had been very successful in this mode of treatment, and although his farm was poor when he took it, he had improved it and made money from it besides.

A second drew out the manure on to heavy clay lands in the winter, ploughed it under lightly, and had met with gratifying success.

A third was in favor of ploughing very lightly under, and was of the opinion that manure placed on or near the surface produced the best effects.

A fourth, more wisely, did not believe in any general rule as applicable to all soils. He had found it, however, to his advantage to top-dress the growing grass crop in September or October. Everybody will admit the value of this plan on level lands, and when the grasses are well established.

A fifth, on a leachy, hungry soil, ploughed the manure deeply under. He does not state, however, the nature of the subsoil.

A sixth had no fear of getting the manure in too deep. So the discussion went on, a majority of the speakers, however, being decidedly in favor of ploughing under.

More recently, we have said, the question has been started again. The argument of one writer is as follows: "Manure applied to the soil for the promotion of vegetable growth acts in three ways. First, by moisture—washed into the soil by rains, the juices are reduced to a fit state to be taken up by the rootlets of the plant, to stimulate its growth. Secondly, it acts mechanically by admixture with the soil, keeping it light, mellow, and porous—permitting the atmospheric air to penetrate and deposit valuable salts and gases. Thirdly, when placed on the top, as a *mulch*, it serves to retain the moisture secured by the dew and rains, and prevents evaporation."

All this is very good in its way, provided the soil was sufficiently open to receive "the juices;" and not loose enough to allow of quick evaporating of the volatile gases. Mulching is a different matter, and is also good; but a mulch may be equally effective *as a mulch*—that is to say, as means of restraining undue evaporation—if it were composed simply of rough fibrous materials of any kind. But the following from a correspondent of the *German town Telegraph*, covers, as nearly as possible, the whole field of dispute. We quote:

"Next for consideration comes the time and manner of the application of the manure. Reason would dictate that this should vary with the state of the manure, and with the crops for which it is applied; but there is another important item which is too often lost sight of—I mean the kind of soil to which the manure is applied. This I consider a very important consideration, and in fact the most important one, and one which governs me as to the manner of applying common manure to the wheat crop. One farmer will tell us that he has tried it, and finds that the same quality of manure will produce better wheat when applied as a surface or top-dressing than when

plowed in; another who has tried it will give you exactly the reverse as the result of his experience. Both may be intelligent farmers, yet why this diversity of opinion?

"Four years ago I divided my oat stubble into three equal portions, running the full length of the field, so as to have the soil in each as near the same as possible. On one of these I applied the manure as soon as the oats were off, and ploughed it in as soon as possible; on a second I spread it and let it remain until near seeding time, and then ploughed it under; the third was ploughed, seeded, and the manure spread on top of the wheat. At harvest there was no difference between the first two, and the third was a little better than the other two. This I attributed to the protection afforded the grain by the manure during the winter. Throughout the whole field, in all three of the patches, there were sandy knolls, and on these the effects of the three modes were more apparent. These knolls produced much better wheat where the manure was applied after the wheat than on the other two. This I would account for by the following reasoning: the soil of these knolls was deep, loose, and sandy, and by the first two methods the manure, which was not very short, was thoroughly mixed with the soil, making it still more loose, and thus the substance of the manure, instead of remaining in the soil as food for the plant, was washed out by the rain-water, and carried too deep to benefit the plants.

"In another field, having patches of the same nature, I have proved this theory to be correct. One of them which was somewhat higher than the rest of the field, in order to level the field I took some five feet off the highest portion, and one foot below this, or six feet from the surface, I found a bed of clay. Next spring the whole field was ploughed and planted with corn, and this hitherto poor and unproductive spot produced the best corn I ever raised. The field was this year in with wheat, and no manure was applied to the knoll, but I never saw finer wheat than grew thereon."

In an experiment made by ourselves some fifteen or sixteen years ago, on a gravelly soil with a clay subsoil, the results were very similar. In a portion of this field the manure was ploughed under, whilst another portion was top-dressed, in the fall, after the wheat came up. The soil was thin, and wherever the underlying clay came to the surface, or near it, the manure ploughed under was quite lasting in its effects, while in the top-dressing portions the effects were transitory. The wheat ploughed under took the rust and did not do well; that top-dressed was an excellent crop, and the grasses were well set. But, in the course of a year or two, the grasses shrivelled out where the land was top dressed, whilst they continued to do well where the manure was

ploughed under. The conclusions we reach are these: On heavy clay lands manure liberally and plough under; on light soils top-dress in lesser quantities, but more frequently. This is as near as we can come to a sound solution of the controversy.

DRAINING QUICK SAND.

A Practical Drainer, in the *Canada Farmer*, gives his mode of draining quick sand:

"I first dig a ditch for drain-tile, a little larger than is necessary, and then take tan bark, where it can be procured, and put a layer, about one inch or so in thickness, all along the drain; then lay the tile (which should be round outside and with a round bore, so that they will lie any side down that they will fit best) placing them as tight together as possible with a pipe-tile layer, an instrument any blacksmith will make for fifty cents. I then place another layer of tan bark on the top and sides, thus enclosing the tile in tan bark, and then fill up the drain as usual. If tan bark is not procurable, fine gravel will do as well or better. The pipes should have a gradual descent.

"I don't think that stone drains can be made to answer in quicksand, and as they are more expensive than the tile drains, and neither so safe nor effectual, I don't see anything to recommend them, other than that if the land is drained, that alone is a great gain, let the drain be composed of what material it may.

"The reasons which lead me to the conclusion that stone drains are more expensive may be summed up in a few words. In the first place, the drains have to be cut larger than for tile, thus causing more work, and consequently more expense. Secondly, a thousand pipe tiles, two inches bore, a quantity calculated to lay upwards of sixty rods, can be procured at the tile yard for six dollars; now, it will easily be seen that this length of stone drain could not be laid for double that amount, more particularly if prepared as recommended by the English draining engineers—i. e., each stone being broken until it will go through a ring two inches in diameter, and then shoveled into the drain without regard to order, but just leveled along the bottom of the drain, and sods, straw, or brush laid over them. I believe it would be better to haul stones into the road, and haul tile five or six miles, if a person wants a satisfactory job done. I believe the reason given by your correspondent for making his drains narrow, to give the pressure to keep the drains clear, is a correct one, that being the chief recommendation for drain tile. The channel being straight and clear, there is no reason why well-baked tiles, well laid, should not last as long as grass runs."

Our Agricultural Calendar.

Farm Work for September.

In all the operations of the farm, the best means of facilitating the work to be done is to lay down a system of management, and adhere to it. It should not, of course, be a rigid system, but one sufficiently flexible to allow of changes in details, without interfering with the general routine. But no system can be effective that does not take into account the character of the soil to be cultivated, and adapt the rotation of crops in accordance with it. There are farms that comprise, within the space of a hundred and fifty acres, several kinds of soil. We have a personal knowledge of one, for instance, within six miles of Baltimore, of rather less extent than we have mentioned, the soil of which, facing on the main road, is a thin gravel resting on a clay subsoil. Further back there is a rather compact chocolate soil, capable of growing any thing, while another portion of the same farm is a light sandy loam. Now, all these different soils require different modes of treatment, and the rotation adapted to the one would fail, or only partially succeed, as to the other. They are all capable of being brought to a high condition of fertility, and when this is done, each will yield the heaviest products of the crops specially adapted to it. We do not, at this time, propose to discuss what those crops should be, for any farmer of experience is capable of laying out a rotation, for each and every one must be governed in doing so by an exact knowledge of the diversities of the soil which he cultivates. We simply refer to it here for the purpose of suggesting to those who have not taken this important matter into consideration, the loss they sustain in neglecting it. To grow rye upon a heavy clay and wheat upon a sandy soil is to violate the rules of good farming, and yet many do it, deeming that the rotation that is good for one kind of soil is good for all. The work for the month is as follows:

THE CULTIVATION OF WHEAT.

As to Soil.—The soil best adapted to the growth of wheat is a deep loam inclined to clay, with a dry subsoil. To grow good wheat it is essential that the organic matter in the soil shall be intimately mixed with the earthy ingredients. In such a soil, compact, yet fertile, the roots take firm hold, and at the same time their fibres strike downward, as well as laterally in search of food. The application of fresh manure directly to the wheat crop is injurious, if the manure is rich and abundantly supplied. Its effect is to produce too rapid a growth, weakening the straw and increasing the quantity, at the expense of the grain, which requires phosphates and

not azotized substances to promote its development. To produce good wheat the land should be gradually brought to the proper degree of fertility by liberally manuring the crops that preceded the wheat, and which will leave in the soil a good supply of potash and the phosphates for the uses of the wheat plant.

Analysis of Wheat.—To show what elementary substances the wheat requires, and how admirably they are supplied by a clover lay turned under, we append the following analysis of the ashes of each:

	Carbon, lbs.	Oxygen, lbs.	Hydrogen, lbs.	Nitrogen, lbs.
An acre well set in clover, supplies....	1,750	1,396	185	78
An acre of wheat requires.....	1,487	1,262	171	32

It will thus be clearly seen that a good crop of clover turned under constitutes the best of all preparations for a wheat crop.

As to Fertilizers other than Clover.—When the crop of clover is thin the soil is not in good condition, and other fertilizers must be resorted to. As the organic constituents of wheat consist largely of potash and phosphates, and as these, by frequent cropping, are most frequently drawn from the soil, it is necessary to return them in some form or other, and either of the following mixtures, applied to each acre of land, will effect that object:

No. 1.—300 lbs. of phosphatic guano, or superphosphate; 20 bushels of leached wood ashes; 1 peck of plaster; 1 bushel of refuse salt.

No. 2.—5 two-horse loads of wood's mould or marsh muck; 200 lbs. of superphosphate; 100 lbs. Peruvian guano; 1 peck of plaster; 1 bushel of refuse salt.

No. 3.—10 two-horse loads of well rotted stable manure; 20 bushels of wood ashes, leached; 5 bushels of bone dust; 1 bushel of plaster; 1 bushel of refuse salt.

[By "refuse salt" we mean the salt that is left in fish barrels after the fish have been used, or that of pork or beef packers; usually it can be had in any large city if sought for, and at a merely nominal price. Such salt has also an excellent effect when used at the rate of five bushels an acre, with lime, at the time of slacking it for broadcasting, either on grass land or previous to putting in a crop of corn. It should also be borne in mind that in renovating old lands the basis of the improvement should be lime, applied at the rate of from fifty to seventy-five bushels to the acre.]

Preparation of the Land for Wheat.—If wheat is to follow oats, as often the case, the land should have one ploughing in July or early in August, and should be subsequently cross-ploughed about the middle of September, and harrow well until the soil is thoroughly pulverized.

Time of Seeding.—Sow on or about the 20th of

September, either in drills or broadcast. Drilled wheat, however, will invariably stand the winter best, takes less seed, and usually produces the heaviest crops.

Quantity of Seed to the Acre.—If the wheat is drilled in, five pecks will be sufficient. If seeded broadcast, do not use on good soils less than two bushels.

SEEDING RYE.

As to Soil.—The best soil for rye is a rich alluvial, bottom land, well drained. The next best, a fertile sandy loam.

As to Manures.—Five two-horse cart loads of good barn-yard manure, mixed with ten bushels of leached wood ashes, will produce even on ordinary soils a good crop of rye. In a sandy soil there will never be any deficiency of the silica that rye straw requires. The manure will stimulate the growth of the plant, whilst the potash in the wood ashes will promote the production of the grain.

Compost for an Acre of Rye.—To two two-horse loads of barn-yard manure add, in alternate layers, six two-horse loads of wood's mould or marsh muck, five bushels of wood ashes, and one bushel of bone dust. Let the heap remain in bulk until it ferments, then fork it over and mix intimately. Cast out and spread broadcast, ploughing it in lightly. Now seed the land, and finish all off with the harrow and roller.

Time of Seeding.—Not later, if possible, than from the 10th to the 15th of September.

Quantity of Seed to the Acre.—From four to six pecks should be seeded to the acre. The larger quantity will not be found too much if the soil is in good condition.

ORCHARDS.

Spread broadcast over old orchards that need to be renovated a compost made of ten bushels of slack-lime, four two-horse cart-loads of wood's mould, marsh muck, or the scrapings of headlands or ditches, two bushels of bone dust, five bushels of ashes, one bushel of plaster and one bushel of refuse salt. Make up the heap, layer by layer, of these ingredients, and after it has heated turn it over, mix and cart out. Spread the compost broadcast, and either plough it in lightly and harrow, or harrow and cross harrow the land, and in either case complete the work with the roller.

Preparations for a Young Orchard.—Seize the first convenient opportunity to plough very deeply the land upon which a young orchard is to be set out. It is desirable that the plough should either be run twice in the same furrow, or that the subsoil plough should follow the ordinary plough—the latter mode being by far the best. But depth of soil is essential to the future and vigorous growth of the trees. Harrow until the soil is well pulverized.—Checker off the land at such distances as you pro-

pose to plant the trees; dig the holes where the cross lines intersect each other, and do not let them be less than three feet wide and three feet deep.—Keep the top soil separate from the subsoil, and in planting return the best soil to the roots, leaving the subsoil to finish off with. Stake the trees, and finish by mulching them to protect them from drought.

Top-dressing Old Meadows.

Where the grass is running out, the land whether intended to remain a season or two longer in grass, or to be ploughed up for corn in the spring, will be materially benefited by applying to each acre 12 or 15 bushels of lime, and harrowing it well in.

Top-dressing for Permanent Meadows.

Two bushels of bone dust, ten bushels of leached ashes, and one bushel of refuse salt, mixed together and broadcasted over each acre of meadow land, and harrowed in and rolled, will largely increase the yield of grass the following season, and for several seasons afterwards.

Mixture for Stock.

Mix equal parts of *mild* oyster shell lime with salt and ashes finely sifted, and give one ounce of the mixture to each head of stock two or three times a week.

Salt for Sheep.

See that the sheep get salt regularly two or three times a week, or keep rock salt in sheltered places, where they can always resort to it.

Cellars and Out-houses.

Clean and carefully whitewash these useful places.

Yards for Cattle and Pigs.

See that these yards are well supplied with materials for making manure, and strew plaster over them occasionally to retain the ammonia.

Fences and Gates.

Examine these and repair them if found defective.

Ditching and Draining.

If there are ditches to be dug, or drains to be opened, make all the necessary arrangements so that the work may be commenced at the earliest opportunity.

Cow Stable and Sheds.

If there is not sufficient shelter for stock already on the farm, lose no time in providing such stables and sheds as may be necessary. A warm winter shelter for stock is equivalent to double feeding.

BOOK KNOWLEDGE.—A friend of ours, says the *Southern Cultivator*, raising two acres of onion sets this year, sowed eight pounds of seed. He afterwards learned that he ought to have put ten pounds upon one acre. He had ordered a work on onion culture, costing 20 cents, which came a week too late. He learned from it further, that onion sets cannot be well grown on too rich a soil. He estimates his loss, from want of information, at not less than \$100.

Garden Work for September.

There are no special remarks required this month in respect to work in the garden. We may say here, however, that those who desire to have vegetables early in the spring should go to work now and make their preparations accordingly. To this end we make the following suggestions:

Sowing Cabbage Seed.—Manure heavily with well rotted manure—it cannot be too rich—spade deeply and rake well a small plat of ground, mark it off into separate compartments, and sow half an ounce of seed of any or all of the following kinds of cabbage: Early York, Early Imperial, Large Early York, Early Battersea, Early Sugar-Loaf, Large Sugar-Loaf and Early Smyrna. Rake in the seed lightly, and bring the soil into contact with it by patting it down with the back of the spade. A few of these varieties will furnish a continuous and regular supply for spring and early summer use.

Time of Seeding.—Not later than the 15th of the month, and the earlier in the month the better.

Time of Setting the Plants.—In about six weeks from the time of seeding the plants ought to be fit to set out. In due time the necessary directions for transplanting shall be given.

Spinach.—A bed of spinach should have been seeded between the 1st and the 15th of August. If this has not been done go to work forthwith, and prepare one. Make the ground very rich, let it be dry and light of texture, selecting a warm exposure if the plants are intended to stand the winter for spring use. Sow in drills eight inches apart, and drill in the seed about an inch deep along the rows. Press down the earth about the seed, and finish off with care. When the plants are an inch broad, thin them out to four inches apart and weed the bed thoroughly.

Lettuce.—Set out lettuce plants to head, and sow fresh seed for winter use.

Radish.—Radish seed of the turnip rooted sorts may still be sown every other week.

Endives.—Set out endive plants.

Celery.—Earth up celery, and take care in doing so not to cover the hearts of the plants. Choose clear dry weather for the work.

Cardoons.—Earth up cardoons for blanching.

Small Salading.—Sow small salading of all kinds during the early part of the month.

Turnips.—Thin out and hoe turnips. Keep the soil light and loose and perfectly free of weeds.

Sowing Cauliflower Seed.—Sow in frames cauliflower seed for plants to be kept over the winter.

Cauliflower and Broccoli.—Water these plants freely in dry weather, for the purpose of promoting vigorous flowering during the ensuing month.

Siberian Kale.—Choose a rich sandy loam—or if not rich make it so by high manuring. Spade deeply, rake thoroughly, and sow the seed from the 1st to the 10th of the month.

Herbs.—Plant out in moist weather all kinds of pot and medicinal herbs.

Garden Seeds.—Gather these as they ripen and spread them in a sheltered place to dry.

Weeds.—Keep the garden free of weeds, and clean off all old beds.

TOP DRESSING GRASS LAND.

A very interesting experiment has been made with various kinds of manures applied to grass, at the State Agricultural College of Michigan. The manures were applied to the plots, from May 5th to 10th, 1864, and the products were carefully cut, dried, and weighed, in July and October of the year 1864 and 1865. The soil was a light sandy loam.

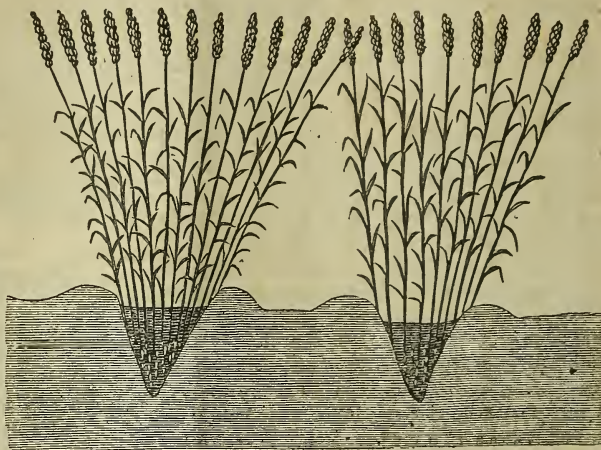
2 bush. of plaster per acre gave an increase of	4,153lb	of hay
5 " wood ashes " " "	3,942lb	"
20 loads of muck " " "	3,683lb	"
20 " " and 3 bushels of salt "	5,318lb	"
3 bushels of salt " " "	4,184lb	"
20 loads of horse manure " " "	5,023lb	"
20 " cow " " "	4,574lb	"

This experiment covers two years, and seems to have been carefully made. It gives, without much doubt, the approximate value of these manures as top dressings for light sandy loams. It shows that two bushels of plaster are worth a little more than two tons of hay, and five bushels of ashes produce nearly the same quantity. Estimating hay at 15 dollars a ton, this is a very good price for plaster and ashes. Farmers who want to get ahead should certainly invest.

The experiment also shows the great value of muck in comparison with stable manure, and it is for the sake of the muck argument that we give place to this experiment this month. The muck is shown to be nearly as valuable as the cow and horse manure, and when composted with salt, is even more so. We wish a compost made of one-third fresh horse dung, and two-thirds muck, had been introduced in the experiment. Something of the value of the horse and cow dung was probably lost by evaporation, which composting would have saved. We think such a compost would have shown better results than either of the manures specified. Muck must be worth about a dollar and a half a load, delivered upon the field, for top dressing, and if the farmer can furnish it for fifty cents, as many can, he has a strong inducement to enter the muck swamps, which are usually accessible this month and next. How can farmers be content to do without manure when there is so much profit in applying it with a liberal hand? Muck and its composts can be spread upon grass land with safety at any time after mowing.—*Amer. Agriculturist.*

DRILLING IN WHEAT.

There can be no fact, more indubitably fixed in the minds of the best farmers who have fairly tested it, than that the drill is decidedly preferable for the sowing of wheat, to broadcasting either by hand or machine. But there is a pre-requisite to the use of the drill, which must always be taken into the account, for the proper effect to be derived from it—the land must be put in good condition, with such appliances as those to which we have before alluded to, otherwise the advantages of the system cannot be always made manifest. If the ground is in proper order to admit of drilling, the wheat comes up better; it grows with more vigor, more evenly than when sown by hand or broadcasting machine.



APPEARANCE OF WHEAT WHEN DRILLED.

The advantages derived from using drill machines for sowing wheat and other small grains, have been summed up by an English agriculturist, as follows:

1. The seed is delivered with regularity.
2. It is deposited at proper depth.
3. Weeds, during the growth of plants, are destroyed with great facility.
4. The plants cultivated receive the undivided benefit of the soil and manure, and have not to maintain a constant struggle with weeds.
5. The land, by the process of hoeing, is undergoing preparation for another crop.
6. The necessity of summer fallowing is avoided.
7. By admission of the sun and air between the rows, a stronger and healthier plant is produced, and, of course, a heavier crop.
8. By stirring the soil it is more susceptible of benefit from the atmosphere, imbibing more oxygen, and being both warmed and enriched by the sun.
9. The roots shoot freely in pulverized soil.
10. By drilling, the farmer is enabled to have heavier crops of beans and wheat on light land.
11. Clover and grass seeds answer incomparably better in the pulverization produced by hoeing, independent from the clearness by weeds.
12. The drills give facility for depositing smaller portions of manure with greater effect.



APPEARANCE OF WHEAT WHEN SOWN BROADCAST.

In addition to these considerations, it is a well established fact, that 25 per cent. of seed is saved by the use of the drill, and the yield is believed to be 15 per cent. more than by the usual modes.—Some Drills are constructed with guano or grass seed attachment—the quantity of guano sown with the grain can be regulated so as to sow 50 to 300 pounds guano to the acre—the desired quantity may be regulated with accuracy by a slide and notches. There are other Drills admirably adapted for the simple process of drilling, without the guano or

seed attachment, manufactured in this city and elsewhere, as will be seen by consulting our advertising columns.

The difference in the appearance of the growing wheat, drilled and broadcasted, may be indicated by the above engravings, which were furnished us by W. L. Buckingham, agent, Baltimore.

Drilling in Wheat.—Whenever a wheat drill can be used without injury, this method of seeding has a decided advantage over all others. By the breaking down of the minute ridges thus formed in the soil, the plant escapes winter-killing, stands the action of the frost better, and whilst there is a great saving of seed wheat, the product at harvest will generally be heavier. Roll before, but never after, seeding with the drill.

COMMUNICATED.

FOR THE MARYLAND FARMER

SPURRY (*Spergula Arvensis*) AGAIN.

In May, 1866, I wrote you an article on "Spurry," in answer to some inquiries you made of me in a private letter. That article, or answer, you published in your July number of "The Maryland Farmer," pages 201 and 202.

Believing that the following quotations from Von Thaer's great work, entitled "The Principles of Practical Agriculture," will be highly useful to all such as desire to try Spurry as a manurial and forage plant on the sandy soils of Maryland and Virginia, I have taken the liberty of sending them to you for publication.

Von Thaer, the father of improved agriculture in Germany, says :

"There are two varieties of cultivated *Spurry*—the one rises to a small height, but grows thickly; the other attains double the height of this one, but never grows thickly or surpasses it in produce, excepting when grown on a very vigorous soil. The former is proper for the poorer soils, on which alone Spurry is usually sown; it is also better adapted for a pasture plant. The latter variety is the more advantageous for sowing on very fertile land, with the intention of mowing it. The two varieties may be distinguished by their seed—the smaller has a black seed, marked with a white ring; the larger, a brownish seed, which, when closely examined, appears spotted with yellow and dark brown, and is usually without the ring. By mixing the two seeds I have obtained a *medium* variety, which grows to a much better height than the small kind, and at the same time very thickly. I have obtained excellent crops from this variety, even on middling soils, and fit for either pasturage or mowing.

Spurry grows on almost all soils, even on the very bad sands, provided there be no want of water during the time of its growth; but its strength and produce vary almost infinitely, according to the quantity of nourishment contained in the soil on which it grows. It is rarely cultivated on fertile soils, but its produce is not equal to that of clover. On the other hand, it presents the great advantage of not occupying the ground long, for it may often be mown eight weeks after seed time, unless its germination has been retarded by excessive drouth. There are, therefore, cases in which Spurry may be advantageously cultivated on the best lands; many cultivators may have recourse to it when their clover fails. Another great advantage afforded by Spurry is that it produces *plenty of seed*, which is easily gathered and threshed, and, therefore, very cheap. When the necessary quantity is grown on the land, it may be set down at a very low price. In calculating the expense, however, we must not altogether lose sight of the fact that Spurry, when allowed to ripen, and particularly when pulled up, exhausts the soil to a great degree, whereas that which is mown or fed off, while young, affords a very sensible increase of nutriment.

Five pounds of seed are required for an acre; but if the soil has been well prepared, and the seed is scattered with perfect uniformity, this quantity may be diminished. The soil does not require extraordinary preparation, unless, indeed, it is infested with dog's toothgrass. Even if this be the case, the Spurry will still grow up; but the dog's toothgrass

will soon choke it. Spurry may be sown from the middle of May to the middle of August. In dry weather the seed should be sown immediately after plowing, the soil having been perfectly leveled with the harrow. The success of the crop depends altogether on the circumstance of the Spurry meeting with a well-pulverized layer of earth at the surface. Hence, it is better to follow the harrow by the roller, and then to harrow again; afterward, to sow the seed, and finish by once more passing the roller over it. The Spurry then rises quickly and equally, a point of great importance.

Spurry is usually sown by itself. I have, however, seen it mixed with clover, the young plants of which were very advantageously protected and sheltered by the rapid growth of the Spurry, and after the latter had been mown, shot up vigorously and very close together. Spurry has also been sown with buckwheat, intended for mowing as a green crop. It might, perhaps, be economical in some cases to sow Spurry among grain, which grows up into the ear, for the sake of obtaining good pasturage on the stubble. It is often sown on the broken corn stubble to obtain autumnal pasturage or green meat. At this season it is scarcely, if at all, injured by slight frosts.

Spurry is mown while in full bloom, either to be consumed as a green meat or made into dry fodder. Its lower flowers, however, often begin to expand very early, and it is just at this time that the plant begins to vegetate most strongly; we must not, therefore, be guided by these first flowers, when we intend to take but one cutting. If Spurry be mown while very young, it will shoot up again, and a second crop may be obtained from it, often more considerable than the first. But the first crop is scarcely worth the trouble which it occasions; it is, therefore, better, in most cases, to have it fed off on the ground, but quickly and by a considerable number of cattle. The Spurry will then not be injured by this pasturage, but will afterward shoot up with greater strength and thickness.

The produce of Spurry is, as may be conceived, subject to endless variations, not only according to the nature of the soil, but also to the state of the weather, for this plant *requires heat and frequent showers*. It stops growing in unfavorable weather, but quickly recovers itself when the weather again becomes congenial to it. The quantity of its produce may be estimated at the half of a crop of clover raised on the same extent of surface. When Spurry is laid up in heaps it becomes much compressed and undergoes considerable diminution of volume; but, at the same time, it increases in density, and a given weight of it is then much more nourishing than the same weight of any other kind of fodder, as those who cultivate it soon find out. When cattle fed on Spurry, either green or dry, the increase of their milk and fat is sensible to the eye. Spurry is likewise one of the best kinds of fodder for producing butter and milk of agreeable flavor.

Spurry is easily convertible into hay by making it up into small cocks, as soon as it is partially dried. When the weather is fine, the plant will dry completely of itself; but in wet weather the cocks must be now and then stirred and turned over. Spurry may be *exposed to rain for a long time without spoiling*, or losing its nutritive qualities. The earlier it is mown the more nutritious is the fodder which it yields; but even the straw—that is to say, the haulm of Spurry that has run to seed—appears to me to be more nourishing than any other

kind of hay. It is still green when mown, for we cannot venture to let it ripen very far for fear that it should drop its seed.

The seed may be turned to a very good account when the quantity gathered is larger than we want. Oil may be expressed from it, though not in sufficient quantity to be profitable. It is thought better to use this seed for feeding live stock; its nutritive power has been shown to be very great. Spurry seed, when used for this purpose, is steeped in warm water; it then loses its germinating power, swells, and becomes digestible. If not treated in this manner, it passes through the bodies of animals unchanged, and with its germinating power undiminished. When prepared, as above, it is given to the cattle, either in the form of wash or poured upon chopped straw. In cows that are fed upon it, the increase of milk is visible; and it is said that the milk and butter thus produced do not acquire the unpleasant flavor which is perceptible when the animals are fed upon other oily substances.—Schwartz informs us that this practice is universally adopted in Belgium.”—*Von Thier's Principles*, pages 497 and 498.

And now, from these statements of Von Thier, the highly distinguished head of the Agricultural College at Moeglin, in Prussia, we see that Spurry, although inferior to clover, still possesses many great advantages to recommend it to our favorable notice, both as a pasture and a green manurial plant upon our poor, sandy grounds. And hence, I think it would be well for our United States Agricultural Department to procure some Spurry seed from Belgium, Germany, or France, for trial upon our sandy soils that are too poor or otherwise defective to produce profitable crops of red clover.

J. F. WOLFINGER.

MILTON, Pa., August 5, 1867.

FOR THE MARYLAND FARMER.

BORDLEY AND RUFFIN AGAIN.

I have been looking in each successive number of your MARYLAND FARMER for some comprehensive and satisfactory biographical sketches of the lives of these distinguished agriculturists and agricultural writers, viz: John Beale Bordley, of Maryland, and Edmund Ruffin, of Virginia. But so far I have looked for them in vain. Can it be that none of your Maryland and Virginia scholars, who have their books or writings, and also plenty of time on hand to give us such sketches, do not esteem their memoirs and character sufficiently highly to prepare and publish such sketches? Will not some one who reads this, and who has the materials at hand to do so, do it?

AUGUST, 1867.

RUSTICS.

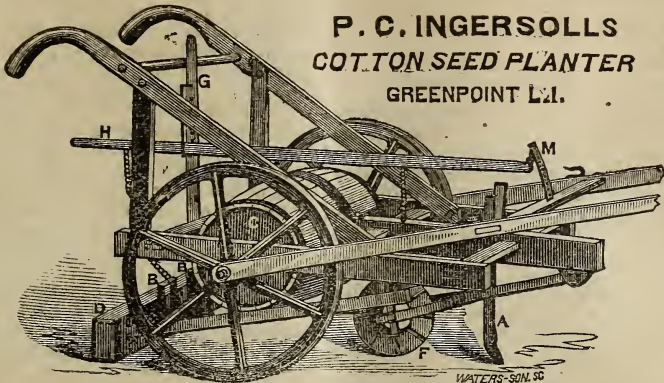
GRASS FOR LAWNS.—The *Gardener's Monthly*, in mentioning that Mr. H. W. Sargent, an eminent landscape gardener of our own country, now absent in Europe, in a private letter, has expressed great disappointment at the appearance of the English lawns, while at the same time he has an increased admiration for our own: says the best mixture of grass seed for a lawn is about one-third rye grass and two-thirds green or Kentucky blue grass.—This mixture stands well and gives a glittering appearance to a lawn that no other grass will. Lawns that are to be machine mowed should be largely seeded with red-top as it will bear low cropping without injury.

GOOD EFFECTS OF DROUGHT.

Farmers regard a drought as one of the greatest evils that can be inflicted. The ways of Providence, however, are inscrutable, oftentimes, to human ken, and it behooves us, whose wisdom is finite, to be cautious how we complain of Heaven's decrees.—The State Agricultural Chemist of Maryland, published a paper once tending to demonstrate the physical necessity of drought, the legitimate effects of which, according to his theory, tend to replenish the vegetable stratum of the soil with certain manurial substances which are carried off by the rains, or taken up by vegetables, and carried off without being returned by manure. These two causes, operating as they do, perpetually, would, in time, render the earth utterly sterile and unproductive; no verdure would animate, no solitary plant take root were it not for the frequent recurrence of this reputed evil, by which this loss is supplied, and the economy of reproduction perpetually kept up. During dry weather, the evaporation of aqueous particles from the surface of the earth, is both rapid and unceasing; this creates a vacuum so far as water is concerned, and this vacuum is immediately supplied by the water which rises up from the sub-soil, which is in turn replaced by water from the strata below, the circulation of water in the earth, or below its surface, being the reverse of that which takes place in wet weather. This water, in its ascent, becomes impregnated with valuable manurial matters in solution:—the phosphates and sulphates of lime, carbonate and silicate of soda, which are deposited in the vegetable stratum or surface soil as the water evaporates, and thus restore the wast previously sustained from the operation of the aforementioned causes. That fact appears to have been verified by a number of experiments conducted with great care, by William Higgins, whose indefatigable and praiseworthy labors, as they have been conducted by the light of science, will unquestionably be productive of great good. This subject is certainly deserving the candid attention of men of leisure and intelligence who unite the rational systems of theoretical and practical agricultural. —JOHN HAMILL, in *Germantown Telegraph*.

THE USUAL ROTATION OF CROPS on the 300 acre farm of Hon. George Geddes, in Onondago Co., N. Y., is corn on sod, followed by barley and oats the second year; wheat, seeded with clover, the third year; meadow the fourth year, and pasture the fifth. This and six adjoining farms yield an average in all crops twice as great as the average throughout the State.

The man who has nothing to boast of but his illustrious ancestry is like a potato—the only good belonging to him is under ground.



**P. C. INGERSOLLS
COTTON SEED PLANTER
GREENPOINT L.I.**

INGERSOLL'S PATENT COTTON-SEED PLANTER.

The chief obstacle to the successful introduction of Cotton-seed Planters has arisen from the tendency of the filament-covered seed to cling together in masses, and thus prevent the requisite uniform dropping of such seeds into the furrows designed to receive them. The inventor of the machine shown in the annexed engraving, has sought to obviate this difficulty by so constructing it that its operation tends constantly to separate the seeds before dropping them, thereby securing the same facility in planting the seed mentioned that has long since been secured in the planting of corn, etc. The construction of the apparatus may be briefly described as follows:

A barrel-shaped hopper, C, is mounted upon the axle of the two supporting-wheels of the machine, and at the rear end of the rectangular main frame of the latter. This hopper, C, is furnished with a series of holes extending around its central portion or bulge, the said holes at the upper side of the hopper being covered by a suitable metallic strap, and at the under side by a similar strap, provided with an opening to allow the seed to drop from the hopper when the holes just mentioned are brought opposite the said opening, the size of the latter being adjusted by a suitable slide operated by a lever, G. Situated at the forward end of the main frame is a furrowing share, A, the depth to which the said share penetrates the soil being regulated by adjusting the height of the forward end of the main frame through the agency of a suitable sector, M, passing up through the cross-bar of the thills by which the planter is drawn. Suspended behind this furrowing share, by a suitable bar, is a wheel, F, furnished at each side with radial ribs, and the office of which is to roughen or indent the bottom of the furrow to better fit it for the reception of the seed. The forward end of the main frame may be raised when required by a lever, H, connected therewith by a suitable cord or chain; the said lever being also connected in like manner with a transverse drag-bar, D, which is drawn behind the main frame, to which it is attached by suitable rods, and is furthermore provided with shares, B, designed to close the furrows and cover the seed therein. This lever is retained in position by a pin or equivalent device attached at any desired point to a standard, G; and by raising the lever the drag-bar may be raised simultaneously with the main frame when simply moving the machine from place to place. The seed being placed in the rotating barrel-shaped hopper, C, the rubbing or attrition of the seeds upon each other causes the fibres or filaments on the surface thereof to be closely wrapped around the bodies or

kernels of the same, thus enabling them to separate readily and fall singly, through the holes in the hopper when brought opposite the opening in the strap underneath the same, and down into the furrow where they are covered by the drag-bar and its shares, as just explained.

This invention was patented on June 23, 1867, through the "American Artisan Patent Agency," by P. C. Ingersoll, of Greenpoint, N. Y.—*American Artisan, New York.*

THE VOICE OF THE GRASS.

Here I come creeping, creeping everywhere;
By the dusty roadside,
On the sunny hillside,
Close by the noisy brook,
In every shady nook,
I come creeping, creeping everywhere.

All around the open door,
Where sit the aged poor,
Here where the children play,
In the bright and merry May,
I come creeping, creeping everywhere.

In the noisy city street
My pleasant face you'll meet,
Cheering the sick at heart,
Toiling his busy part,
Silently creeping, creeping everywhere.

You cannot see me coming,
Nor hear my low sweet humming;
For in the starry night,
And the glad morning light,
I come quietly creeping everywhere.

More welcome than the flowers,
In Summer's pleasant hours;
The gentle crow is glad,
And the merry bird not sad,
To see me creeping, creeping everywhere.

When you're numbered with the dead
In your still and narrow bed,
In the happy Spring I'll come
And deck your silent home;
Creeping, silently creeping, everywhere.

My humble song of praise
Most gratefully I raise,
To Him at whose command
I beautify the land;
Creeping, silently creeping, everywhere.

Deity.

From Nature's constant or eccentric laws,
The thoughtful soul this general influence draws,
That an Effect must pre-suppose a Cause:
And, while she does her upward flight sustain,
Touching each link of the continued chain,
At length she is oblig'd and forc'd to see
A First, a Source, a Life, a Deity;
What has for ever been, and must for ever be.

EXHAUSTION OF SOILS.

We republish the following translation from the *New York World*.

[Translated from *L'Echo de L'Agriculture*.]

Practical agriculture differs in no way from every other industrial enterprise. The artisan and the manufacturer know that their establishing and working capital must not be continually reduced if they would carry on their business. Thus the cultivator cannot continue to derive any profit except by restoring to the soil, under the form of manure, what has been taken from it under the form of products.

The history of all places and times furnishes us with numerous examples of the exhaustion of soils; and we could point to provinces to-day completely sterile, which formerly were noted for their high fertility. "How is it," said Liebig, "that countries bordering the Mediterranean have been gradually depopulated? and what has caused the desolation of certain countries, such as Asia Minor, Greece, Italy, &c.? The exhaustion of the soil." Ignorant people who are in the habit of attributing the fluctuation of the population to peace and war, explain all these facts in that manner. But peace does not nourish a population any more than war destroys it, for they only exercise a passing influence over them; but what really collects or disperses human societies is, the fertility of land. Collumella and Varro attest the exhaustion of the soil put into the hands of slaves, and render them responsible for the proceeds of its culture. The cultivator is the free and independent man *par excellence*, when his fields are not too extensive for him to farm by himself, with the aid of his children, and his land is sufficiently fertile to pay taxes, as well as procure his family a sure and certain subsistence; but when in consequence of the exhaustion or impoverishment of his land, the free peasant disappears, his patriotism subsides, and he leaves the soil which he cultivates—the land which gave him birth. The means employed by the Roman Legislature for contending with this evil, and which were re-enacted in the centuries following, are extremely instructive and interesting; but neither the division of the land enforced under Caius Gracchus, nor the efforts of Julius Caesar and Augustus to re-establish the equilibrium disturbed between the wants of the population and the production of the soil, or between hunger and the fields which could no longer satisfy it, were productive of sensible results. A similar phenomenon occurred in Spain, under the reign of the Roman Emperors. Spain was one of the richest countries in the world. Titus Livius and Strabo speak of the rich harvests of Andalusia, which yielded a hundred fold. Under the dominion of the Moors Spain was the most thickly populated country in Europe. Tarragona, which was the second city of the Roman empire, then numbered upwards of a million inhabitants; and afterwards, under Abd Er-rahman, contained 350,000; but now, only 15,000. In several of the Spanish provinces the land only yields a crop once in two years, while in Andalusia it is only every three years.

But, to come nearer our own time, how is it that all the old estates in the East of America, untrodden lands, which have only been cultivated for a comparatively short period, and which astonished Europe by their fertility—how is it, we repeat, that all these countries have become sterile, and yet for all that the climate has not become inclement, the air which surrounds them, and the water which bathes

them are still the same? It must be that the soil is deprived of a principle which the regulating operations of natural agents cannot reinstate. They have been impoverished by culture. But we must leave these considerations, borrowed, for the most part, from Baron Liebig's book, to the actual observation of facts; for the exploration of a natural phenomenon is at once an affair of science and observation. The doctrine of Liebig has been very learnedly treated by M. Malaguti, senior member of the Faculty of Science at Rennes, who made it the subject of a course of lectures on Agricultural Chemistry, 1865. By the fertility of a soil is meant the whole of those conditions which result in an abundant crop; and by the productive faculty of a soil is meant the whole of those conditions which ensure the continuance of a yield. A soil is productive when under its surface, as far as the roots of vegetables extend themselves, it contains all the elements necessary for the nourishing of such plants. It is fertile when it gives a good crop.

Independently of the physical and geological composition of the soil, we see first that a knowledge of the rooting of plants is the basis of agriculture, and under that head it is necessary to say very little is known in general. The working of a soil ought, in fact, to be exactly appropriate to the nature and properties of the roots of the plants you wish to cultivate. Besides, it is the nature of certain grains, such as wild oats, couch-grass, &c., to preserve themselves under the arable bed exhausted by the culture of the cereals, and to appear at the surface, there filling the place of seeds to which the soil no longer offers nutritive substances. This is the cause of the invasion of weedy grasses in a great number of fields abandoned to ruinous culture and a succession of cereals, especially those where the abuse of carbonate of lime has already ruined the temperament of the arable bed. Nevertheless, it was a conquest of the cultivator who discovered the action of calcareous marl introduced into certain soils, until then unproductive from the culture of several plants, especially wheat. Vast beds of carbonate of lime, under different names, were discovered thirty years ago in Brittany. Fertility seemed reproduced in certain districts. For instance, we may mention that of Dinan, where Count de Lorgèril discovered the shelly basins of Saint Pivot, and brought it into use, under the name of "sandy chalk." M. de Lorgèril took care to state that to the knowledge of the inhabitants these beds had never been worked till then. But from the appearance of certain parts, there were visible traces of former openings; and even tradition tells us that the Romans, and perhaps our fathers, the Gauls, had used carbonate of lime to a vast extent; and no doubt the same abuses now practised caused its abandonment then. Sea-mud manures far more completely than sandy lime, all lands where a previous abuse of it has rendered the soil sterile. What must be done, then, to prevent this exhaustion of land? We must put into it what has been taken from it; and if the intensive culture so controlled in the present day, is employed in the art of impoverishing the soil, in order to avoid this fatal consequence we must look beyond the products of cultivation for the matters necessary to cover the deficiency between the receipts and the annual expenses of the farm. The method of restoring to the soil those elements taken from it by cultivation is so simple, that it is astonishing it was not thought of in the last century; but still, the knowledge possessed by the farmer of

the necessity for manuring land, proves that the idea of restitution existed, though only in the germ. As plants etiolate at once if removed from the action of light and water, it was thought at first that these two elements were necessary to the existence of them; afterwards it was believed that crops would never be deficient if the land was properly manured. Later on, it was imagined that the element of production was humus; and, consequently, the cultivator who could produce the greatest quantity of that matter was the most successful. It was remarked, however, that certain agents of a mineral nature, such as marls, plaster, &c., increased the crops, from which it was concluded that these substances were stimulants. As an element of production, humus stood first—it gave a great development to the culture of fodder plants. Besides, it was found that cereals attained to greater perfection after fodder plants, from which fact people drew the conclusion that cereals were exhausting to a soil; while, on the contrary, fodder plants helped to fertilize it.

At that time, practical men attributed all to manure, and exaggerating the notion of equivalents, that thought if grasses were put into any kind of soil the result would be the same—it would produce an equal quantity of manure, while the contrary effect would be produced by the cereals.

Thanks to these false theories, agriculture was at a stand-still, and alarm was felt everywhere when the use of marl and plaster once more gave good crops; but the productive faculty of the soil soon became extinct. At that time, although the nature of air was known, scientific men were ignorant of the fact that it is the source of hydrogen and nitrogen. By analyzing the elements introduced into organization, it was found that the urine and solid excrements were composed of the mineral elements of food, mixed with other matter which did not add to alimentation. This discovery led to some experiments of the action of manures upon vegetables, when it was soon found that dung put upon a soil could not restore it to all the elements that had been taken from it by cultivating cereals. Now, it is generally admitted that all plants are of a mineral nature. Some of their principles exist in the air, others in the earth, while these two elements always exist in a solid form in the plant. It will therefore be seen that it is only through the decomposition of their mineral elements that manures act upon vegetables. According to the doctrine of M. de Saussure, it was believed that wild plants derived their nourishment from the carbon distributed in the atmosphere, and cultivated plants from humus; but Liebig taught us that all the carbon contained in plants came from carbonic acid, and that it was that idea he expressed by the circulation of oxygen. The carbonic acid is absorbed by plants, which exhale the oxygen and retain the carbon. Oxygen assists the respiration of animals, and being exhaled by them, is again appropriated by plants. We also learned from Liebig that plants derive all their nitrogen from nitric acid; consequently, the circulation of that element is produced in the same manner as oxygen. Carbonic acid combined with nitric acid transforms itself into the economy of urea; while urea, in its turn, transforms itself into carbonic acid combined with nitric acid. Theodore de Saussure knew that phosphate of lime was necessary to plants, and it is the same with phosphate of magnesia. Sprengel discovered the presence of alkalis in the vegetable economy, but as they all admitted

that plants drew their nourishment in the soil in a state of solution, it was thought that these elements must enter into them, whether they were needed or not. We see now the fallacy of this opinion, for the cellular tissue can only form itself with the aid of carbon. Without carbon, neither fecula nor sugar could be formed; and without phosphate, albumen could not be formed.

M. Malaguti, in his second lecture on agricultural chemistry, says: "There exists in the remotest part of Asia a vast country presenting the climates comprised between Central Germany and Lombardy." The land is of volcanic origin. The mountains there are formed of a very stiff clay; the soil of the valleys is nearly sixteen feet deep, and rests upon an impermeable subsoil, where some artificial fens are formed. From time immemorial the fertility of that country has never been disputed, and that in spite of the absence of all agricultural societies, meetings, agricultural communities, &c., and what is still more, without any cattle market, or the least importation of artificial manures. This country is Japan. If these countries enjoy unparalleled richness, it is due to the idea of restoring to the soil those elements which have been taken from it. The Japanese has no cattle, because he could not sell his milk; and he does not eat meat, and, therefore, would get no profit from his beasts. All the land belongs to the sovereign and to some nobles of high degree, who give the lands in fiefs to nobles of an inferior class. The latter, in their turn, farm them out to peasants, in lots of five or seven acres or more. As the properties are small, and divided by a great number of canals for irrigation, they do not serve advantageously for milch cattle; they, therefore, only keep sheep. The Japanese farmer is ignorant of the anchorism, "Much fodder, many cattle; many cattle, much manure; much manure, much corn." But they say the principles which constitute a crop proceed partly from the soil and partly from the air. The latter are brought there by the force of natural laws, and the first must be introduced into the soil. Human excrements only represent the part which is derived from the soil, and from that they conclude that those who consume the crop become the producers of manure. It is, then, because they use human excrements that their crops never fall off. No trace of the manure is ever found on the land; but privies are constructed in every street for the purpose of collecting it. It must not, however, be supposed that no other manure is used by these people. As there is always some loss of fecal matter in a crop, while respect for the dead deprives the soil of a part of its fertilizing elements, they employ other manures; and, as they use enormous quantities of fish, they put the *detritus* into the soil. They also form a compost with chopped straw, kitchen refuse, and the clearings of fields, which is covered over with earth and cut straw, and moistened constantly. After a certain time putrefaction commences, when they break up the heap, and by that means obtain good vegetable mould. In order that it may be thoroughly used, they manure each plant particularly—that is to say, they open furrows, sow the seed, and cover it over with manure, thereby avoiding the necessity of spreading it over the whole surface, as we do; and their fields never remain fallow. That is due to human excrements, and it is the same in China.

But let us leave these countries and see what was passing in Europe, in the middle of last century; take France for example:—

About 1760, the cultivator had no other winter fodder than carrots, turnips and a little straw, from wheat or rye. Butter and milk were both very bad in quality. They had to wait till the spring before they could let their cattle into places where the grass was at most only an inch high, and the animals returned as starved as they went out. This is what our agriculture will come to if we do not take care. About that time Schubert introduced the culture of clover; for a time this supplied the loss of other fodder, but after a while the yield diminished, till at length they could no longer grow it upon the same land. Then appeared guano as an artificial manure; I shall not speak of the animal black, the quantity of that used being much too small to influence the destiny of agriculture. But thanks to the use of this manure, the crop of clover became much larger; France once more recovered her productive faculties, but soon clover again began to diminish in yield, when gypsum (thanks to its action, the nature of which we are ignorant of) rescued the farmer once more from loss by increasing the crops of that leguminous plant. Thus clover, potatoes and guano, have hitherto prevented the ruin of agriculture, particularly the potato, as it will grow upon a poor soil and vegetate where wheat would not sprout. It must not, however, be supposed that potatoes prevent the exhaustion of soils; quite the contrary; but as their roots force themselves to a greater depth in the earth than wheat, they find nourishment where the short roots of that cereal could not reach. But though the introduction of the potato has been beneficial in some respects, it has also been the source of a great evil on the continent, by favoring the change of its manure for gold from England. Besides, the use of potatoes as the sole aliment of certain populations is one great cause of the decrease in stature of the human species. For instance, in France the height of soldiers in 1789 was 5 feet 6 inches; in 1823, it was 5 feet 3 inches; and now the regulation height is only 5 feet. In Germany, says Leibig, where the people feed almost exclusively upon potatoes, the diminution of height is still marked. In 1760 it was 1m. 78, and now it is 1m. 55. In Saxony, out of 1,000 conscripts, there were 716 unfit for service and 817 rejected as under height. The bony substance of them has been exported in England under the form of animal charcoal. Another cause of the slow decline of agriculture is the discovery of guano. Let us suppose, says M. Malaguti, that 1 cwt. of guano furnishes in five years 5 cwt. of wheat more than would have been obtained without the use of that manure, the importation being about 200,000 tons in fifteen years, the result would be 1,800,000 individuals would be well fed, thanks to guano, for we might put any other production as an equivalent in the place of wheat. But guano, too, will come to an end, for all that has been discovered is in working, consequently the mass diminishes more and more. The discovery of fossil phosphate has also brought fresh help to make up for the insufficiency of bones, but that source will soon become exhausted; and besides, phosphate alone will not afford nourishment for plants, it must be mixed equally with potash and soda.

THE PEA NUT CROP.—It is estimated that the pea nut crop in North Carolina will equal this year the crop of last year. New Hanover and Onslow, the principal pea nut region, then realized sixty thousand bushels.

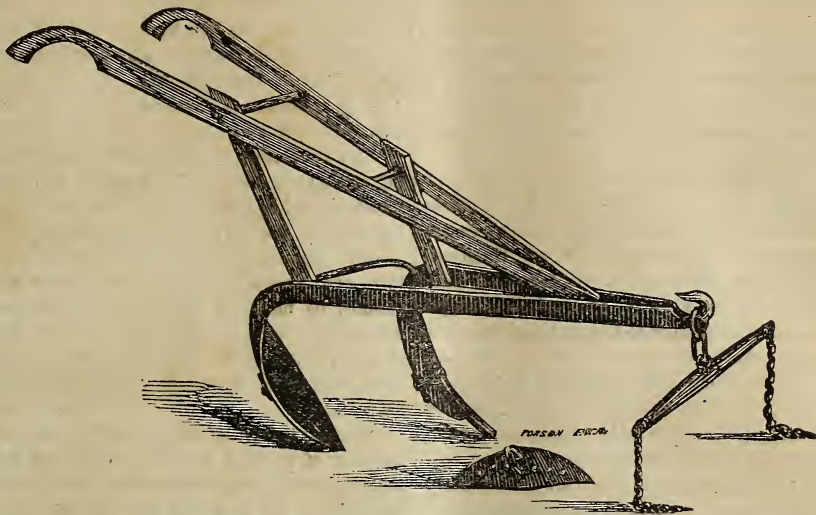
When to Turn in Clover.

In the regions where green crops are turned under for manure, there is a diversity of practice. Some plow when the crop is in its most succulent state. The rule for clover is when the heads are about half turned brown. The reason offered for this practice is, that the bulk of the crop is then the greatest, and it undergoes most rapid decomposition in the soil. Others do not plow in clover until late in fall, and after it has been well pastured. The reasons they give for this practice are: 1st, that turning in the clover green, makes the soil sour, and has a tendency to bring in sorrel. 2. It has a bad influence upon subsequent crops. 3. In waiting until fall, you have the advantage of pasturing, and if the cattle are kept upon the pasture, as they should be, everything the field produces is returned to it. 4. More carbonaceous matter is returned to it. What you lose in tops, you gain in roots of the clover, which have four or five months longer to grow. 5. Better crops follow. Some of the best farmers in Pennsylvania follow this method altogether. Others still wait till the following spring, and turn in the clover just as it begins to grow.—*American Agriculturist.*

FALL TOP-DRESSING.—Every farmer who has practiced fall top dressing, knows it is invaluable. This does not arise so much from the fertilizing matter in the dressing, as from the fact that it protects the surface of the earth from sudden changes of the temperature—prevents its freezing so early in the fall, or losing its moisture and heat by a too direct contact with the wind. In short, the real benefit of fall top dressing is in its mulching the soil. Stable manure is too valuable to be used for this purpose. Far better to keep this to apply in the spring, and then cover it with earth immediately. At least ninety per cent. of manure, used as fall top-dressing, is wasted by passing into the atmosphere. Nearly the same results can be obtained by fall top-dressing with leaves, by straw, or any other substance that will cover the surface. Let a farmer try the experiment, by thus mulching a small piece of grass land with straw, leaves, or other like substance, in the fall, and apply the manure in the spring; and on another piece, apply the same quantity of manure in the fall, and give us the result.—*Ohio Farmer.*

DISEASE AMONG HOGS.—Several fine hogs have died in this vicinity recently from a disease said to be the hog cholera. The symptoms are loss of appetite, falling away in flesh, a swelling of the throat, &c. A hog is a difficult animal to cure when once afflicted, and the sickness of a hog generally terminates in death. Some preventive medicine should be used, we think, on the well hogs, sulphur, antimony, or "horse powder."—*Free Press, Townsontown, Md.*

Routt's Iron Double Shovel Plough--Reversible and Extensible--with Coulter Attachment.



The above cut represents Routt's Double Shovel Plough, which is so constructed that it can be used with two shovels—elliptical in shape—or two coulters, or one of each, as circumstances may require.—By means of indentations in the cutting points of the shovels, they can be lowered as they wear away, and when worn out at one end can be reversed by the ploughman in the field; so that one pair of shovels will last through the entire season without loss of time or cost of smithing in repairs.

The Plough, handles excepted, is made of the best English Iron, and the Shares of the best Cast Steel polished. It has been extensively used, for years, both in Virginia and North Carolina, and Mr. A. P. Routt, Liberty Mills, Orange Co., Va., inventor and manufacturer, can produce many certificates from prominent farmers as to its great efficiency.

SETTING TIRES.—It is said that tires can be kept tight on wheels without coming loose until they wear out, by soaking the felloes of the wheels in linseed oil, after the tires are put on, which is done in this way: Procure a cast iron box at some foundry, or a deep sheet iron pan of a length and depth suitable for the purpose, in which put the linseed oil, then place it over the fire till the oil is brought to a boiling heat, and no hotter, for if too hot it will burn the wood. The wheel should now be suspended on a stick, so that it will revolve and the felloes be immersed in the oil, each soaking an hour. The wood of which the felloes are made should be well seasoned and dry at the time of using, or it will absorb the oil; when wood is prepared in this way it is impervious to water, and last much longer than it otherwise would. The above will not be likely to meet with favor from blacksmiths and wheelrights, as it is for there interest, the one to reset tires, and the other to make repairs; but the farmer will readily perceive the advantages of adopting this method of preparing his wheels, which does away with the necessity for resetting the tires.—*Rural American.*

Desolation.

I alone am left on earth!
To whom not a Relative nor Blood remains,
No!—not a kindred drop that runs in human veins.

HOW TO MANAGE BONES.—A correspondent of the *Journal of Agriculture* gives the following as his experience, every other year, for the past ten years; that being as often as he could collect bones enough to fill a tub:

With a sledge hammer break the bones into pieces of one, two or three inches; take a hogshead tub, put in two or three inches of hard wood ashes, the same depth of bones; then ashes and bones until full; pound or press solid as convenient; fill with water or urine, all that it will absorb. If done in the spring or summer, by the spring it will shovel out fully decomposed, the bones being as soft as chalk.

Then add all your hen manure, shovel and rake it over once a week, for three or four weeks before planting time; by that time it will be finely powdered. Put about equal to a handful of compost into a hill, for corn, potatoes, squashes, melons, &c., when it will be found to forward the crops to a wonderful degree.

COTTON AND CORN IN THE SOUTH.—A correspondent of the *Cincinnati Gazette*, writing from Huntsville, Ala., estimates the cotton crop of this year at 3,000,000 bales; and says if the season continues favorable very few provisions will be wanted from the North to supply the demands of the South.

ON THE USE OF PHOSPHATIC GUANO.

Professor James C. Booth, of Philadelphia, read before a late meeting of the Philadelphia Society for promoting Agriculture, a paper entitled "Notes on the improvement of exhausted land by the use of phosphatic guanos, slightly superphosphated." He said:

"A farm of some sixty acres having fallen into my hands in the year of 1860, I determined to make it pay an interest on the cost, until some other disposal might be made of it in the future. Upon calculating the cost of buying and hauling stable manure from the city or vicinity, (five or ten miles,) I found it would be cheaper to buy and haul a so-called superphosphate. I therefore determined to attempt improving my miserably poor farm by the latter alone, trusting to increasing the stock with the increasing produce, so as to render it at last independent of the purchased manure.

"The table below will present all the necessary facts in relation to the farm—from its briery poverty in 1861, to the plethoric falling down of wheat and clover in the late rains of 1867.

"It contains about sixty acres, of which only forty have been in cultivation. The gross sales of everything that could be scraped by industry in 1861 was \$219.36, showing the poverty of the farm.—The rotation system, common in our vicinity, was followed, viz: 1, Corn; 2, Oats, potatoes, turnips, etc.; 3, Wheat; 4 and 5, or 4, 5 and 6, Clover and timothy. Of course we used the little stable manure made at first as judiciously as we could—but two or three cows fed from poor land, only covered an acre or so with a delicate gauze of manure.—This was subsequently improved, as increased production and of better quality increased our stock, so that in the spring of 1867, the six acres in corn and potatoes, covered with manure, looked jet black, leaving the ground scarcely visible.

"The starting-point of the improvement, and its main source to this moment, is a phosphate of lime. The composition of the phosphate I used was about 20 per cent. phosphoric acid, of which 3 to 8 per cent. were soluble in water, and 1 to 2 per cent. potential ammonia.

"The quantity I aimed to get into the soil has been about a half a ton per acre, trusting to the immediate action of the soluble phosphoric acid, and the gradual development of the insoluble, by cultivation during many years, but designing to add a little of the same manure in each subsequent rotation. The best method of using the phosphate, according to my experience, is to harrow in some four hundred or five hundred pounds, sown broadcast upon the land, when plowed for corn, and to put two or three hundred pounds more in the hills, together

with a little wood-ash. Then two or three hundred pounds more should go on the root crops, etc., of the next year, and two hundred or four hundred pounds more be harrowed in, after plowing for wheat, in the Fall of the same year. I have thus put 1000 to 1200 pounds on every acre as it came in the order of rotation.

"My conclusion as to the best method of improving farms at a distance from cities, which are or which should be the great sources of fertility, is this: to improve the soil by the liberal use of phosphates introduced into the usual rotation system, and then keep as much stock as the farm can possibly be made to bear. The phosphates commence the fertility—the stock sustains it. The produce of stock may vary, according to the proximity to a town, in milk, butter, cheese, or raising stock for sale.

"The advantage of the butter produce is, that nothing of mineral value is sold off and removed from the land, except the trifling amount in wheat flour and in the flesh and bones of the hog. For this reason I have had a butter dairy for several years, with the exception of one year, when a milk dairy was tried.

"The following table of the gross sales of produce of all kinds, in successive years, will show the influence of phosphates, alone, to improve farming land:

	1861,	1862,	1863,	1864,	1865,	1866,
Gross value of Sales,	219.36	235.23	532.46	1019.41	1353.98	1448.96
Cost of feed and seed,	40.00	40.00	19.61	175.96	224.61	410.77
Net profit on Sales,	179.36	195.23	512.85	843.45	1129.37	1038.19
Number of cows,...	2	4	4	5	10	13

"At the present time (June, 1867,) there are fifteen cows and one bull. From thirteen milking cows we have obtained, during June, an average of some 68 or 70 pounds of butter per week, which is an average of about 5½ pounds butter per cow per week. The grass on which these cows have fed has been almost exclusively produced by phosphates, and the cows are but the ordinary country breed.

"In order to have a fairer view of the improvements resulting from liberal use of phosphates, I should add:

"1, That the value of the above cows should be added to the profits in each year.

"2, The whole farm is so improved that it would continue to yield largely for some years to come, without further improvement.

"There is nothing remarkable claimed for Hilltop farm, and I have merely thrown the above thoughts together, at the suggestion of some of the members of the Philadelphia Agricultural Society, to show how a poor farm may be made productive, and even profitable, by the liberal use of phosphates as manure, applied in the usual rotation system to common farming by a plain farmer."

PEAT AND MUCK.

In the Southern States, an immense amount of valuable manure may be procured from a proper use of Peat and Muck, which abound in thousands of localities. A writer gives the following method of preparing peat to be applied as a top-dressing for clover or grass lands of any kind, which is perhaps as valuable as any that can be described :

"One cart load of quicklime, broken into pieces not exceeding one's fist in size; six cart loads of peat, and five hundred pounds of salt; the ingredients to be carefully mixed together, and to remain in a compact pile for a period of not less than six months, and to be shoveled over two or three times during that period. Peat, mixed with fresh horse dung, if the escape of the ammonia liberated by fermentation is prevented, constitutes a most valuable manure for any purpose. It should, however be mixed with some substance which will decompose the carbonate of ammonia, and convert the ammonia into a sulphate, which may be accomplished by the agency of sulphuric acid. An excellent way to prepare peat, is the following:—Four loads of peat, to be mixed in thin strata, with fresh horse dung, and where great heat is engendered during the decomposing process, covering the whole with fresh mould, in which has been mixed a quantity of sulphuric acid.

"Another article, invaluable to the farmer, is muck. This may be said to be of universal diffusion, for it is found on almost every homestead, though of different degrees of value, when contemplated as an agent for ameliorating soils. All muck, whatever may have been the conditions or circumstances of its formation, contains more or less tannic acid, a principle extremely prejudicial to vegetation, but which, like many other substances, may be changed by proper agents into a good manure.—When muck is taken from the bed in the autumn, and freely exposed to the action of the winter's frost, it is not only pulverized and made fine, but the tannic acid itself is neutralized, and rendered incapable of operating with any prejudicial effects upon either the soil or the crop. Or it may be deposited in the cattle yards and allowed to absorb the liquid voidings, and to become mingled with the solid excrements of the animals, whether horses, oxen, sheep, or swine. In this way the manurial resources of the farm may be augmented to almost any extent that may be desired, and at comparatively small expense. This material increases the humus in the soil, and becomes an important element of fertility.

"It may be laid down as an agricultural axiom, that the value of land increases with the humus which it contains, for this is a point invariably taken in consideration even in the ordinary classifica-

tion of soils. But this humus, in order to produce its best effects, must be perfectly free from all acidity, as well as from substances possessing astringent principles, which would prove detrimental to vegetable life. Any soil containing a thoroughly acid humus, and which turns blue litmus paper into a bright red, is not proper for vegetable uses till it has been ameliorated. We often find that lime, in its caustic state, or ashes that have not been lixiviated —i. e., not deprived in part of their alkali—whether made by the incineration of peat earth, or wood, are used in correcting the acidity of muck, and with excellent results. But where muck is hauled from the pits, and exposed to the action of atmospheric agents, or where it is put into the yards of domestic animals, the admixture of corrective substances, with a view to neutralize the native acid, is unnecessary. No finer manure can be obtained for many purposes than is made from muck. In the garden, in the fruit orchard, in the corn, potato and wheat field, it possesses a value that cannot be too highly appreciated.

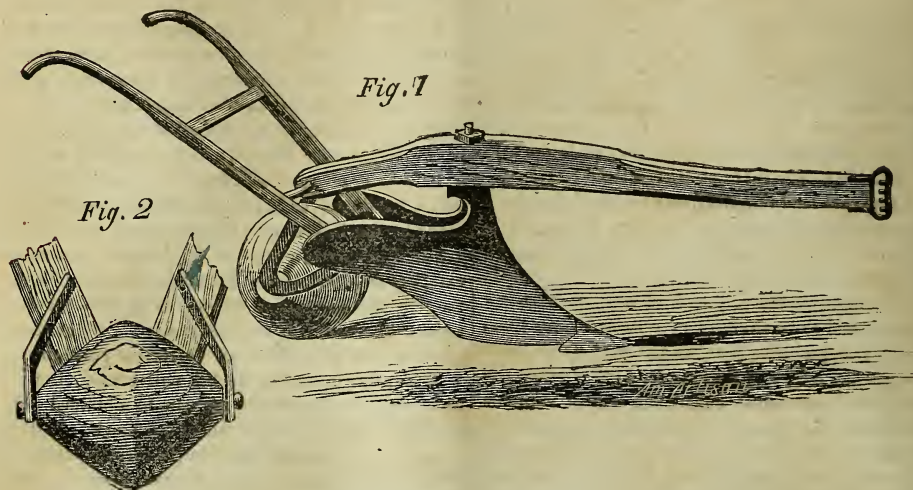
"I have known a compost formed mostly of swamp muck, to produce most excellent results when placed around old apple trees that had fallen into senility, and which had been given up as utterly worthless, except for fuel. To prepare it for this purpose, a little old lime, with a small quantity of gypsum and salt, was mixed with it, and the whole exposed to the action of frost. The sod around the trunks, for a distance of a few feet, was first removed, and the compost applied in the spring."

NEW WHEAT.

T. Stradley, in the *Asheville (N. C.) News*, thus speaks of the Odessia Wheat:—"It fell to my lot last spring, though very late, to be intrusted with a small quantity of Odessia wheat, purporting to be a spring wheat, sent to the mountains of North Carolina from the Patent Office, to try its adaptation in our high altitude. I committed to the ground, tolerably prepared, on the fourth day of March. In ten or twelve days it made an excellent appearance, equally green as some fall wheat, sown in the adjoining enclosure. It progressed well, up to maturity, the grains produced, I think, are some larger than the original.

If good reliable spring wheat could be procured, two especial advantages would be secured to the country at large; first, if the fall sowing should freeze out, which is sometimes the case, then the farmer could prepare other ground for spring sowing. Again, persons working but small force, cannot always put in as much as they need, or desire, in the fall, and thus they could add to the crop in the spring.

DOWNMAN'S PATENT DRAIN PLOW.



In the ordinary drain plow, as used for surface draining or opening water furrows in fields where the land has already been plowed and harrowed, much trouble is experienced by the loose earth falling back into the drain and thus obstructing it. If some means were provided to pack the earth at the sides of the furrow as turned, the difficulty would be avoided, and this is accomplished, as seen in the engraving, by the simple attachment of a double-cone roller, which is placed to operate immediately in the rear of the double-mold board of the plow. This roller may be made of cast-iron or wood, and to avoid too great a weight, if of iron, may be cast hollow, the shape of the roller being that of two cones attached at their bases and forming an angle of about one hundred and twenty degrees. This roller is attached to the hinder part of the plow by means of two arms, and revolves on pivots in the apexes of the cones at the angle of the arms. These arms are made of a forked shape, the lower end being permanently fixed to the plow handle, and the upper one working in a slot so as to elevate or lower the roller to suit the depth at which the plow is running. The arms are attached so as to cause the roller to follow in the track of the plow between the wings of the double-mold board, and as the furrows are turned by these mold boards the roller bearing upon them presses the earth firmly down, so that it will not fall back and fill the furrow and so obstruct it for the passage of water.

This improvement in drain plows was patented on June 25, 1867, by Rawleigh W. Downman, of Georgetown, Md., who may be addressed at that place for further information. —*American Artisan, New York.*

THE MARYLAND FARMER.—A subscriber at Orangeburg Court-House, S. C., writing us on business, thus compliments the "Farmer":—"Please send me the June number of the Maryland Farmer, which failed to come to hand. Am sorry to worry you about sending the missing number, as I am sure it has been sent once already; but I cannot afford to lose it, as I now and then get hints from it which are worth the whole year's subscription, and a great deal more."

LIGHTNING-RODS.—A copper rod is preferable to one of iron. A rod presenting a large amount of conducting surface, and made firm by corrugations, is now manufactured by a party in this city, which fully meets our approval. We presume copper-smiths in any part of the country can make them. Glass insulators are of no special consequence.—Any secure way of fastening the rod to the building is all that is necessary. A building need not be covered all over with rods, with numerous points projecting upward. This is a perfectly useless expense. Two good copper rods rising above the chimneys of an ordinary dwelling are a perfect protection, if the ground terminations are properly attended to. This point is very important, and the owners of buildings should personally attend to having the rods pass into the earth eight or ten feet, or until a place of permanent moisture is reached.—*Boston Journal of Chemistry.*

LAWNS.—It is impossible to have handsome lawns unless proper attention is paid to them. In the first place the ground must be well prepared for seed by deep plowing, careful pulverization and heavy manuring. Sow plentifully of the following seeds mixed in equal proportions: rye-grass, blue-grass and white clover; then roll with a light roller, and harrowing will be unnecessary. Commence mowing the young grass when six inches high, not too closely, and continue to do so, if with a scythe, every three weeks, but if with a machine cutter, every eight or ten days. Every other year top-dress in autumn with a good coat of manure evenly spread.

This is the only way to secure a smooth, velvety, dark-green lawn, one of the most charming objects about a well-kept premises.—*Ger. Telegraph.*

The Dairy.

BUTTER MAKING.

We give the annexed article on butter making, prepared, we believed, by a Chenango county, N. Y. dairyman :

To make fine, high-flavored butter requires a very nice process, one which, in reality, but few, in comparison with the number engaged in the business, carry out in its manufacture. Nice butter is a dainty luxury, which most of us appreciate ; I will not say all, for if all did, I am sure there would not be much poor butter found in our markets. Probably not one-fourth of all the butter that goes to market is of a prime, high order ; and to this fact must be attributed the exceeding high price we get for our prime butter, and in turn, the high price has a tendency to raise the price of the poorer grades ; so that in consequence of there being so much poor butter, we have to pay too much for good, and, as will be seen, too much for the poor. Now, if all our butter was prime, we should have neither the high nor the low-priced, but a mean between the too. To make butter in its highest state of perfection, many things are to be considered. First the cows should be selected with great care, and well cared for winter and summer. The field which they graze in should not be too high, neither too low ; if to high, there is not so much heart in the grass ; it is apt to be poor and stunted, and too wearisome for the cows to travel over. If too low and wet, the grass is flashy and the milk will be too many parts water. Warm, dry lands are the best for the dairy purposes ; yet low lands are very beneficial during the dry seasons. Cows will do better not to change them from one field to another, unless from a day to a night pasture. Cold water and cool, dry cellars, or milk-houses, are necessary. Close attention must be paid to the milk that it does not stand too long, and milk things must be scalded daily. Strain the milk all together in a tin vessel sufficiently large to contain one milking, and stir the milk a little before putting it into pans or pails. The milk of some cows is very rich, while the milk of others is very poor, consequently the latter will sour first ; and some will be very yellow, while others is very light colored ; hence we readily discover the necessity of straining the milk altogether, that it may be of a color, and changed at the same time, and it will make enough more butter to pay the trouble. Set the milk in a cool place, and whether in milk house or cellar, fresh air must be supplied in the cool of the day.

As soon as the milk changes a little, or even before, pour off the cream, and about one half of the milk, into the churn or tin vessels at night, when

it can be done without injury to the cream, as early in the morning is the best time for churning. The cream should be well stirred together on putting into vessels or churns, and, in ordinary weather, may stand a few hours before churning. It is very necessary indeed that the churns should be kept perfectly sweet ; and to do this effectually, they should not be made of soft wood, but of the best of oak.—The flavor of butter is often injured by cream standing too long in bad churns, and not know the cause of it. A wire screen should be used to cover the cream in the churns instead of the lid, as the exclusion of the air has a tendency to make the butter taste of the churn. The temperature of the cream for churning depends somewhat on where the churning is done. Sixty-two is about right in summer, and in cold weather sixty-four or five.—If the cream is too warm, reduce the temperature with cold water, and if too cold raise the temperature by heating the vessels containing the cream in hot water ; by no means put the hot water into the cream. Pour in plenty of cold water while the butter is gathering. The butter should be washed perfectly clear of butter-milk before salting. Ashton salt is the best for butter. It should not be salted sufficiently at the first working ; by a handful, say, to ten or fifteen pounds. After working the salt through the butter properly, let it remain in the house till the next morning ; work it over again, at the same time adding a little more salt, and it is ready for packing in the firkin, which should not hold over eighty pounds, to suit the market. The salt that is put in the last time of working, will dissolve after it is packed in the firkin, and instead of the butter sticking to the trier, a nice, clear sweat will rest on the back of the same, which pleases the buyer exceedingly, and at the same time he exclaims, "That is right, good enough to eat with our warm biscuit and honey."

A RECIPE FOR GROWING ONIONS.—To grow one acre of onions use the following composition once a week for eight weeks : (The onions are to be sown broadcast.)

One half bushel common salt, one pound sulphur, two ounces carbonate of ammonia. This amount to be applied at one time—the first application to be made as soon as the onions come up.

If the ground should get hard and weedy, the amount should be doubled or even tripled. This is the famous recipe by which so many onions were said to be grown in Iowa last year. No hoeing or weeding is required.—*Prairie Farmer.*

ENGLISH GAME FOWLS.—Enquiries having been frequently made for this breed of Fowls, we would call attention to the advertisement in our columns. The gentleman offering them for sale is an experienced breeder and trainer, and guarantees purity of blood.

THE MARYLAND FARMER

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We are gratified to learn that Hon. T. C. Peters, of this city, formerly President of the New York State Agricultural Society, is preparing a work for publication, embodying his experiences and observations.

Mr. Peters was sent South by the Bureau of Agriculture last spring as Agent for the Distribution of seeds, and has lately returned from a most extended tour.

We shall look with interest for the promised account of his conclusions respecting the condition and resources of this portion of our country, the more especially as we feel sure from our knowledge of the writer that they will be accurate and impartial.

CROPS IN GEORGIA.—A correspondent at Crawfordsville, Georgia, writes us, under date of August 2, as follows: "Crops are generally good—some neighborhoods having suffered by drouth; but the great misfortune here and all over the South is the great scarcity of labor. From a rough estimate of the area of land planted, at least half is left uncultivated. Freed men will not work constantly, if possible to avoid it. At least one-third of them have no regular employment; yet they have all to be fed, and if you do not let them have it, they will steal. I don't think there is one-fourth the cotton planted this season there was in 1860. We can't raise hogs; Cuffy won't allow it. How are we to feed the present population at present speed?"

PREPARATION OF BONES.

MONTICELLO, ARK., July 30, 1867.

Editors Maryland Farmer:—I am able to procure, almost without cost, a large quantity of bones, and believe my land would be greatly benefitted by an application of phosphate of lime; but there being no mill for crushing bones in this region, I am at a loss to know how to make them available. I live near a steam mill, and can get plenty of very excellent wood ashes, and if I had the time would try the Russian treatment of bones, published, I believe, in the *FARMER* some time since; but the transportation on lime hither is twice its original cost. I find the bones can be disintegrated very readily by boiling them in the lye from the ashes, but am not chemist enough to know whether there is any loss of their fertilizing properties by this process. Will you please inform me? If there is none, or not too considerable loss by this method, I think I can manage the bones without difficulty. I will boil them, pulverize them, and combine them and the lye in which they are boiled with as much earth as will take up the lye. Would such a mixture be a good fertilizer?
S. J. M.

Our correspondent can adopt his method of decomposing bones without fear of injuring their fertilizing properties. Bones consist, as he is well aware, of an animal and an earthy portion. Acids attack and dissolve out the earthy matter, while alkalies have the same action on the animal portion. If, then, the bones be boiled in lye, the nitrogenous animal substance is dissolved, and the bone earth is left behind in a very friable condition, since it is the organic constituent which gives bone its toughness. Now, upon reducing the bone earth to powder, and mixing it well through the alkaline mass, the putrefaction will engender acid salts which will dissolve the phosphate of lime. In such a compost decomposition will go on very rapidly. Besides, the potash itself is a very valuable fertilizer.

Care should be taken, however, to let the mass moulder well before applying it, and to mix a suitable quantity of earth with it. Otherwise its causticity might prove dangerous. Some little ammonia will probably be lost, but not enough to counterbalance the advantages of the speedy reduction of the bones to a state of fine comminution. We should be glad to hear from our correspondent minute details of the results of his experiment.

DANVILLE AGRICULTURAL SOCIETY.—An agricultural society was organized in Danville, Va., on the 27th July last, and adopted a constitution, which provides for the holding of two fairs at the town of Danville each year—a general fair in October and a tobacco exhibition in June. The executive committee have already taken the preliminary steps for a fair the coming October.

LOUISIANA STATE FAIR will be held Nov. 5th, at Baton Rouge. Premiums liberal. R. H. Day, president—A. D. Lytle, Secretary.

FOR THE MARYLAND FARMER.

Pumpkin and Apple or Pear Butter.

As butter is very high in price, and scarce, and often poor at that, many families are now compelled to use molasses or some other article wherewith to spread their bread and cake. And I have, therefore, in my own family, made, for the last two years, some "Pumpkin and Apple or Pear Butter," with very decided benefit.

In the fall of 1865 I boiled myself two large kettles full of this kind of butter, the materials used for it being as follows:

First Kettle.—2 bushels of pared and sliced sweet pumpkins; 2 bushels of pared and snit Swaar apples; 7 quarts of molasses and $2\frac{1}{2}$ pounds of brown sugar; 20 cents' worth of cinnamon.

Second Kettle.—2 very large buckets full of sweet pumpkins; 2 large buckets full of "watermelon" winter pears; 1 large bucket full of Swaar apples; 4 quarts of molasses and 3 pounds of brown sugar; $12\frac{1}{2}$ cents' worth of cinnamon.

The first kettle made me about a dozen common-sized earthen crocks full of quite nice and sweet butter, free from any perceptible pumpkin taste. The second kettle made me about six common-sized crocks full of a better butter still, very nice, sweet, and fine flavored; better, in my opinion, than any cider and apple butter I ever tasted.

And this fall (1866) I boiled myself two more kettles full of this butter, my preparations of said materials now being as follows, to wit:

First Kettle.— $2\frac{1}{2}$ bushels of pared and sliced sweet pumpkins; $2\frac{1}{2}$ bushels of pared and snit Swaar apples; 6 quarts of molasses and 2 pounds of brown sugar; $12\frac{1}{2}$ cents' worth of cinnamon; 15 quinces.

Second Kettle.—2 bushels of pared and snit Swaar apples and $\frac{1}{2}$ bushel of watermelon pears, pared and snit; $2\frac{1}{2}$ bushels of sweet pumpkins, pared and sliced; 6 quarts of molasses and 2 pounds of brown sugar; $12\frac{1}{2}$ cents' worth of cinnamon.

Both of these butters were rather light colored, but sweet and very good, with a slightly perceptible pumpkin taste. A little more molasses or sugar would have given it a rich brown color, and perhaps have entirely removed its pumpkin taste, though that is by no means unpleasant. The Swaar is a rich and very juicy apple, of a subacid flavor, while the watermelon pear has a sweet and very abundant watermelon-like juice and flavor. And their juices, combined with the juice of the pumpkin, supplied the want of cider, an article that is now too scarce and dear in these parts for making apple butter.

My method of making this butter is as follows:—I first put a bucketfull of clean pump water into my kettle, and pour in the whole of my pumpkins, which

soon heat up and become fine, without any or but little stirring. I then put in my apples or pears gradually; and commence stirring them as usual in apple-butter boiling. After the apples or pears are all in, and have become fine, I pour enough boiling water over my molasses to make it all dissolve and get hot before putting it into my kettle, as the molasses, if put into the kettle in its thick and cold state, is very apt to sink down to the bottom of the kettle and burn it. And after the molasses is all in, and well stirred for a while, I next put in my sugar, and when my butter is nearly done, add my cinnamon.

Perhaps some of your readers have a still better way for making a still better pumpkin and apple or pear butter, and if so, let them tell us all about it in your "Maryland Farmer."

A PENNSYLVANIAN.

Fox Grape Wine.

Our Goshen, Va., correspondent, who alluded to the very fine Fox Grape Wine tasted in Tennessee, writes us as follows as to the mode of manufacturing the same by the "Log Cabin" folks. We sought the information for the benefit of "a subscriber."

"The grapes are stripped from the bunches and pressed in a cider press; to each gallon of juice put half a pound of clarified sugar. After fermentation it is "racked" off in casks or barrels, and to each barrel of 40 gallons put half a pound of sulphite of lime. The other details of straining, bottling, &c., are the same as observed in the manufacture of all wines. The above recipe is verbatim as I took it down in my memorandum book after I tasted the wine. I made no inquiry as to the time it lay in the open casks, &c."

WHEAT RAISING AT THE SOUTH.—The subject of wheat raising at the South is just now engrossing a good deal of attention among farmers of that section. Many questions are being propounded in relation to the preparation of the soil, time of seeding, machinery adapted to that particular crop, &c. We would refer our new subscriber to the present number of the *Maryland Farmer*, and the past issues, for much of the information sought. In the mean time, we should be pleased to receive a response from any of our contributors to the following from a gentleman at Columbia, South Carolina:

COLUMBIA, S. C., Aug. 9, 1867.

Editors of the Maryland Farmer:—Will you or some of your practical writers be kind enough to give us some ideas in regard to preparing lands for the drill, and in using the same? Also, what kind of soil is best adapted to the raising of wheat, time to sow, how to prevent the fly, rust, freezing out, &c., &c., and greatly oblige
A FRIEND.

BOOK NOTICES.

CHEMISTRY OF THE FARM AND THE SEA, with other Familiar Chemical Essays, by James R. Nicholls, M. D. Boston: A. Williams & Co., 1867. For sale by Henry Taylor & Co.

This is the ambitious title of a very meagre performance. The Chemistry of the Farm occupies about forty pages; that of the Sea about eight more. The remainder of the book is taken up with rambling disquisitions on a variety of topics. In these days of book-making we might dispense with complaints of brevity, provided that brevity depended upon condensation of valuable information. As that is not the case with the present volume, we think it our duty to proclaim its inferiority.

With the absurd attempts at humorous illustration and the loose statement of analytical results we do not propose to deal. Practical errors are more important. When our author tells us that barn-yard manure may be imitated by composting with a cord of muck, 65 pounds of nitrate of soda, 2 bushels of wood ashes, a peck of salt, 10 pounds of fine bone meal, 2 quarts of plaster, and 10 pounds of Epsom salts, he is presuming over much upon the ignorance of his readers, especially when he accounts for its acknowledged inferiority to barn-yard manure upon the hypothesis of some extreme divisibility of matter in the latter substance.

The truth is that the nitrogen of barn-yard manure passes almost wholly into ammonia during the process of decomposition. Now, as ammonia is one of those compounds which is tenaciously retained by soils, the growing plant gets the benefit of all the nitrogen within reach of its rootlets. Nitrate of soda, on the other hand, is not retained, but passes rapidly into the subsoil and is washed deeper and deeper by rains, running off ultimately at whatever exit, natural or artificial, the water can find or make. It is beneficial only for the comparatively short period it is descending through the surface soil. Again, the nitrogen in barn-yard manure is slowly liberated during decomposition, so that there is a constant supply of this useful substance extending over the whole period of growth. This same gradual process occurs also with the inorganic constituents of barn-yard manure, which are brought into solution by the acids generated during the process of fermentation. These same acids act also upon the phosphates and other sparingly soluble salts in the soil. It is manifest that none of these results can reasonably be looked for in a fertilizer, the ingredients of which are mostly fixed. Surely here are reasons enough for the superiority of barn-yard manure, without searching for any hypothetical minuteness of particles.

Again, what is to be said about such a loose statement as this: "At present, bones furnish the cheapest, in fact the only supplies of phosphoric acid?" Every tyro knows better. With similar confusion of ideas, the author tells us that *ashes* of starch pass out through the respiratory organs. Our concern is only with the author's chemistry, and we therefore pass by in silence his slovenly rhetoric and his execrably bad grammar.

VINEYARD CULTURE, IMPROVED AND CHEAPENED, by A. Du Breuil, Professor of Viticulture and Arboriculture in the Royal School of Arts and Trades, at Paris. Translated by E. and C. Parker, of Longworth's Wine House, with notes and adaptations to American culture, by John A. Warder. Published by Clarke & Co., Cincinnati. Price \$2.

The book under notice is decidedly the best treatise on the Grape that has yet been given to the public in an English dress, whilst in point of typographical execution it does honor to Cincinnati. Professor Du Breuil is a standard authority in France on all subjects that come within

the range of his specialtie. The work now before us has not only the benefit of his teachings, but the additional advantage of being adapted to the uses of the American vine-grower by no less an authority than Mr. Warder, whose recent work on American Pomology is one of the most thorough and complete of which we have any knowledge. M. Du Breuil divides his manual into various heads, commencing with the choice of a site for a vineyard, and proceeding through easy stages through all the various operations of planting, pruning, and cultivating the vine, of the manures best adapted to its growth, of the effects of the weather upon the vines, &c., &c. We heartily commend the work to vinegrowers especially, and to agriculturists generally.

Fruit and Ornamental Trees, Plants, Shrubs, &c.

We beg to call the attention of our readers to the large number of advertisements in this issue of our *FARMER*, offering every variety of Fruit and Ornamental Trees, Plants, Vines, &c., to the horticultural and agricultural public. We are satisfied that our advertisers can be relied upon to fill all orders promptly and satisfactorily. For catalogues, &c., address as follows:

Edward J. Evans & Co., Central Nurseries, York, Pa.

Hoopes Bro. & Thomas, Cherry Hill Nurseries, West Chester, Pa.

J. Burkholder & Wilson, Bendersville, Adams co., Pa.

John Perkins, Nursery and Fruit Farm, Moorestown, N. J.

Richard Cromwell, Patapsco Nurseries, 48 Light street, Baltimore, Md.

E. K. Cooper, Baltimore, Md.—Peach Trees from the orchard of H. H. Rasin, Kent co., Md.

John Knoz, Fruit Farm and Nurseries, Pittsburgh, Pa.—

Strawberries, Grapes, and Currants.

John S. Collins, Small Fruit Nursery, Moorestown, N. J.

Engle & Bro., Marietta, Pa.—Large stock of Peach Trees.

Wm. S. Little, (successor to H. E. Hooper & Co.) Commercial Nurseries, Rochester, N. Y.

John Saul, Washington city, D. C.

Ellwanger & Barry, Mount Hope Nurseries, Rochester, N. Y.—Trees, Grape Vines, Strawberry Plants, Bulbous Flowering Roots, &c. &c.

A. M. Purdy, South Bend, Indiana—Small Fruits.

Isaac Pullen, Hightstown, N. J.—Peach, Apple, Pear, Cherry Trees, &c.

Charles Collins, Moorestown, N. J.—Small Fruits.

George Perry & Son, Georgetown Nursery, Georgetown, Conn.—Grape Vine Layers and Buds.

WOODSIDE SCHOOL.—We refer our readers to the announcement of the opening of the Fall Session of this school on Wednesday, September 11th. Dr. Montgomery Johns, Ph. D., Principal, is too well known to our people as an experienced and efficient teacher to need any endorsement from us. His successful career as teacher of youth warrant us in recommending his school to our friends. See Announcement.

FINE TOMATOES.—We acknowledge the receipt of a lot of fine tomatoes, grown by our friend T. White, of York, Pa. They were of the Mammoth and Tilden varieties, large and fine. Also, fine specimens from our friends, Edward J. Evans & Co., of Central Nurseries, York, Pa.—they were sent as Ford's variety. They were served up in modern style and pronounced "delicious" by the old and young *habitués* of our breakfast board, and when they had vanished our little "curley head," in imitation of Oliver Twist, cried for "more."

INTER STATE FAIR

For Eastern Pennsylvania, the States of New Jersey, Delaware, and Maryland, to be held at Norristown, Pennsylvania, on the 11th, 12th, 13th, 14th, 16th, and 17th days of September, 1867.

From the List of Premiums, and Rules and Regulations sent us, we quote:

"The Fair is held under the auspices of the East Pennsylvania Agricultural and Mechanical Society, with the promise of the hearty co-operation of most of the County Agricultural Societies in Eastern Pennsylvania, as well as of many of the Agricultural Societies in the adjoining States of New Jersey, Delaware, and Maryland.

"While co-operation is especially invited and promised by the States above named, the Fair is designed to take a wider range, and competition is not only earnestly solicited, but confidently expected from every section of our country. The union and co-operation of four States, possessing so many Agricultural, Mechanical, and Manufacturing interests, cannot fail to command the attention and respect of the farmer, the mechanic, the manufacturer, and citizens generally, and thereby encourage the members of the East Pennsylvania Society in the belief that their enterprise will be rewarded with success."

The List of Premiums in every department is very liberal, and we call the attention of our stock raisers and manufacturers of agricultural implements, horticulturists, and florists to the same. John Kennedy, President, Port Kennedy P. O.; A. B. Longaker, Corresponding Secretary, Norristown, Pa.

Among the committees we find the names of Col. Edward Wilkins, Chestertown, Md.; Hon. James T. Earle, Centerville; John Merryman, Esq., Cockeysville; E. Law Rogers, Charles M. Dougherty, and Wm. Devries, Esqs., of Baltimore city, (the latter President of the Maryland Agricultural Society.)

MECHANIC'S AND AGRICULTURAL FAIR ASSOCIATION OF LOUISIANA.—The Second Grand Fair of this association will commence on Tuesday, Nov. 19, on their extensive Fair Grounds, in the city of New Orleans, to continue eight days. The awards are on the most liberal scale, about \$30,000 offered in premiums. J. N. Marks, President; Thos. G. Rhett, Secretary and Superintendent. We presume their address is New Orleans, though the List of Premiums sent us does not show.

New York State Agricultural Society's Trial of Plows, Harrows, and Cultivators.—B. P. Johnson, Esq., Secretary, gives notice that the adjourned Trial of Plows by the New York State Agricultural Society will be had on Mr. Butterfield's grounds, Utica, commencing September 9th, to prepare the grounds for trial, and on the 11th of September the trial to be commenced by the judges. The exhibitors are requested to be in readiness, and the judges are desired to be present on the 10th September, at Baggs' Hotel, preparatory to commencing their labors on the 11th September. The Trial of Harrows and Cultivators will follow the Plows.

Tenth Annual Exhibition of the York County Agricultural Society.—The Tenth Annual Exhibition of the York County Agricultural Society will be held on its grounds, at York, Pa., on Tuesday, Wednesday, Thursday, and Friday, the 1st, 2nd, 3rd, and 4th days of October, 1867.

SALE OF SHORT-HORNED STOCK.—T. H. Conger, Haverstraw, N. Y., announces his sale of Cows, Heifers, Bulls, and Bull Calves to come off on the 19th of September, at Tarrytown, N. Y., near the Hudson River Railroad Station. This is superior stock.

RECEIVED.

From Ellwanger & Barry, Wholesale Catalogue of Trade List of Trees, &c., &c., Rochester, N. Y.

From L. B. Silver, Salem, Ohio, his Illustrated Catalogue and Price List of choice thoroughbred and imported Stock, consisting of Cattle, Sheep, Hogs, Angora Goats, and Fowls of every description.

From Allison & Addison, Richmond, Va., their Illustrated Catalogue of Farming Implements and Machinery, Guanos, Bone Dust, &c.

J. Knox, Pittsburgh, Pa., Strawberry Catalogue for the Fall of 1867, and Wholesale List of Small Fruits, &c.

From Edward J. Evans & Co., York, Pa., Descriptive Catalogue of New Strawberries for the Fall of 1867 and Spring of 1868. Send for Catalogue.

From Wm. Watson, of Rosedale Nurseries, Brenham, Texas, his Descriptive and Illustrated Catalogue of Fruit Trees, Grape Vines, Ornamental Shrubs, Small Fruits, &c., &c.

From A. P. Routt, Liberty Mills, Orange co., Va., his Illustrated Catalogue of Agricultural Implements and Machines, among which are his Iron Double-Shovel Plow, Patent Drain Plow, Southern Corn Planter and Dough Kneader—all his own invention and manufacture.

From John S. Collins, Fall Price List, Moorestown, N. J.

"LEE AND HIS LIEUTENANTS"—"LOST CAUSE"—"WEARING OF THE GRAY."—We call attention to the advertisement of the Southern Publishing Company, 155 W. Baltimore street, who desire to secure agents for the sale of these standard and popular works, by E. A. Pollard and John Esten Cooke.

"LITTLE'S WHITE OIL."—Our readers are referred to the advertisement of Clark & Blair, of Richmond, Va. "It is warranted to cure swelled joints, sprains, cuts, saddle and collar galls, scratches, poll evil, fistula, and all pains and sores that horses are liable too."

THE NEW YORK MEDICAL COLLEGE FOR WOMEN will begin their Fifth Annual Term, of twenty weeks, at the College, in Twelfth street, two doors east of Fourth avenue, the first Monday in November. Address the Dean, Mrs. C. S. Lozier, M. D., 361 West Thirty-fourth street, N. Y., or the Secretary, Mrs. C. F. Wells, care of Fowler & Wells, N. Y.

LADIES' HOME MAGAZINE.—The August No. of this magazine is received. It contains the Lives of the Apostles; Christian Life; What a Wife Can Do, or, a Story for the Times; Letters on Revision; Crooked Pickles; First Things; Only in the Family; Letters to a Candid Woman; The Eldest Daughter; The Youth's Most Dreaded Foe; A Beautiful Incident; Our Relation to the Future; The Resurrection; The Old Man's Sunset Home; choice poetry, &c. W. T. Horner, A. M., editor, Buffalo, N. Y., monthly at \$1.50 per annum.

AMERICAN JOURNAL OF HORTICULTURE.—The August No. of this horticultural magazine is superior in its literature and its typography. Tilton & Co., Boston: \$3 per annum.

"THE LAND WE LOVE."—The August No. of this popular magazine maintains its reputation for excellence. It is edited by Gen. Hill, assisted by a talented corps of contributors. Published at Charlotte, N. C., at \$3 per year.

NICANOR STRAWBERRY.



NICANOR STRAWBERRY.

The above engraving is taken from the fall catalogue of Ellwanger & Barry, of Rochester, N. Y., who thus speak of the Nicanor Strawberry :

"A seedling of ours from Triomphe de Gand. Having fruited it for six years, we pronounce it a decided acquisition to the list of market strawberries.— It commences to ripen a few days before the Early Scarlet, has proved more productive with us than Wilson's Albany ; keeps longer in bearing and for hardiness is unequalled. Fruit bright scarlet, about the same size as Wilson's, but more uniform and of much better quality ; conical with an occasional flattened berry."

The following account of the "Nicanor" we clip from *Moore's Rural New-Yorker* :

"The most promising seedling strawberry that has come under our notice this year is one originated by Messrs. Ellwanger and Barry of this city. Of thousands which they have grown and tested in past years this one is the only one which they deem worthy of preservation. Its parent is the Triomphe de Gand, and six years experience with it, part of the time on a large scale, by the side of other standard varieties as a market fruit, has done much to decide its merits. We saw it in a field lately side by side with Wilson, Early Scarlet, Triomphe, Russell, and others, and its appearance there would place it ahead of those varieties for value as a market fruit, both on account of productiveness and hardiness. If it sustains its present character when disseminated, it will prove a most valuable acquisition."

Horticultural.

STRAWBERRIES, BLACKBERRIES, RASPBERRIES, &c.

FERTILIZERS, SOIL, CLIMATE, &c.—We believe it is not generally known that the strawberry blossom, in its natural or normal condition, is a perfect flower, furnished with both pistils and stamens, and for the full development of both these organs a peculiarity of climate and soil is requisite; and, we might add, (if we were better acquainted with the laws of nature,) that fertilizers have a marked effect on fully developing these organs. Probably ashes would come as near as any one fertilizer in perfecting the strawberry. We always notice after a fire has passed through our pine woods, and nature has had time to recuperate from the shock, that a rapid and luxuriant growth, accompanied by a full development of larger berries than we ever saw before on the same soil. This is particularly the case with huckle, or whortleberries, and teaberries, or wintergreen. No doubt is entertained by a careful observer of the cause of this luxuriance being due to the ashes from the burnt wood and leaves, and the fine particles of charcoal. The soil being previously well charged with humic, cremic, and apocremic acids, the accumulation of years of decomposed vegetable matter. Nature here gives us our cue in regaining wild lands—that is, burn the brush before cutting and grubbing.

To return to Strawberries. By submitting a variety of kinds to the same culture, we have some with pistils only, others with stamens, while some have both in perfection. We have good grounds for saying the cause of this diversity lies in previous crops on the same soil. For instance, a garden spot is selected for a strawberry patch; now it would puzzle a Pennsylvania Knox, or a Jersey Barry, to tell how many different kinds of vegetables had previously been grown on the soil, and the different positions they occupied, some taking up more alkalies than others, thus leaving the soil in an uneven condition for a fair trial of any one crop. I believe a remedy, to a certain extent, and one that I have tried with beneficial effects, on all the berries heading this article, besides fruit trees of every kind, is a mulching of clay and loam taken from new land and spread a foot or eighteen inches deep in the barn yard; in the fall carted out and placed around the plants, say about six inches deep. This is left through the winter to the action of the weather, rains, freezing, and thawing, weathering away of the confined alkalies, and the spring rains washing these salts combined with the salts of the manure absorbed from the barn yard, washing them in and

around the roots of the plants, and giving them their natural aliment. We notice a good many patches of pure Wilson's Albany in our rambles, and for the benefit of persons just commencing the culture of the strawberry, we would say plant Triomphe de Gand's with your Wilson's, and your beds, with proper culture, will yield you fruit much longer and of a better quality. The Wilson is a staminate, while the Triomphe de Gand is a perfect flower, and by alternating the plants in the row, the latter acts as a fertilizer for the former.

BLACKBERRY, RASPBERRY, GOOSEBERRY AND CURRANTS.—If more attention to the propagation of these plants from the seeds were paid, with proper cultivation, keeping free from weeds, grass, and thinning out in the spring, we would soon have as fine a fruit of the above kinds alongshore as any in the United States. Too much neglect is manifested in this neighborhood, especially in regard to fruit trees. A neighbor called on us a short time ago to look at his dwarf pear trees. They would not bear. I looked at said trees, and then at the owner; said I, how long could you live without proper food, and with a rope drawn around your neck so tight you could only get your breath with great difficulty? Not long, was the reply. And yet your poor trees have been suffering two or three years from too much choking, and nothing of any amount to subsist upon. He took the hint.

If your tree is four feet high, dig a trench six feet from the trunk, all around your tree, forming a circle twelve feet in diameter. Manure on the surface in the fall, and dig in the manure in the spring, over the whole circle.

Raspberries are one of the finest fruits we have, are mostly winter killed by neglecting to protect them properly from the intense cold of our winters. Unlike most plants, their tops or branches suffer the most from the cold. Stakes should be driven down both sides and at each end of the rows, and slats nailed or tied on the stakes; then work corn stalks, sorghum tops, or straw in and around the tops and branches; you will be well repaid in fruit for your trouble. Remove the mulching as soon as spring is well open, but leave the stakes and the railing. When the fruit well sets, bend the canes over the top slats until the tops touch the ground on the opposite side, and stake them down until the crop is gathered. A marked increase of the crop will be the result. All fruit-bearing trees that have a rank growth of foliage, are benefited by this treatment of diverting the flow of the sap from the formation of new wood to the maturing of fruit.—*Cor. New Jersey Courier.*

WEST'S IMPROVED PUMP.—We call attention to this Double-Acting, Anti-Frizing Pump. We have tested them to our own satisfaction. For sale by A. Reuter & Sons, Baltimore.

THE STRAWBERRY CULTURE.

There appears to be a general disagreement in relation to the culture of strawberries, especially as to soil and manure.

A gentleman, an experienced fruit-grower, who called upon us a few days since, said he had come to the conclusion that we made our strawberry-beds *too rich*. His greatest success had been when he planted in ordinary ground, and did not top-dress.

He, however, agreed with us in the opinion that moist, cool situations, even where there was a little shade a portion of the day, was to be preferred; also that, as a rule, hill-planting should not be adopted, though with a few varieties it might be the best. Planting broadcast, as it may not be inappropriately called, will in almost every instance give more fruit, and the beds will last longer. It is true some growers renew their beds every two or three years; but if there is success in securing a *good* bed, we should by all means advise it to be continued as long as it will produce a profitable crop. We removed a bed of Hovey's Seedling, after bearing most bountifully for six years, and have been sorry that it was not allowed to go a year or two longer, as we have not had a good bearing bed since, with all the renewals.

In preparing new beds for planting out, we think it can be advised with the best effect, to dig the ground deeply and pulverize thoroughly, putting in the manure that it is intended to apply while the bed lasts; and the plant should be set as deep in the soil as possible. On the approach of cold weather cover them evenly and lightly with straw, which should be kept in place by bean poles. When the covering is removed in the spring, should the plants have been disturbed by the frost, *pass over them a light roller, or apply about an inch of fine soil to the whole bed*.

It will be found, we think, in a great majority of cases of failure in cultivating the strawberry, that the frost has had much to do with it; and that on examination the largest portion of the roots are above ground, and afford no support to the plants, which, as a consequence, are stunted in growth, as is also the fruit in size.

Some of our very best strawberry growers have completely failed this year, though every attention, according to their ideas, was given to the crop, especially that of *heavily covering with manure in the fall*.

If any top-dressing is applied, it should be in the spring, and then there is nothing better than a light coating of *ground bones*.—*Germantown Telegraph*.

STOVES, FURNACES, RANGES, &c.—Bibb & Co., of Baltimore, offer to the trade and farmers a large and complete stock of parlor and cook stoves, &c. He has patterns to suit every taste.

Planting out Strawberry Beds.

Strawberry plants can now be set out at any time. It is true August is generally a very warm and very dry month, but in case of the absence of rain the newly planted beds must be watered every day or two until they become established.

The bed should not be in a damp situation or the soil heavy. Dig deep, pulverize finely, and apply a pretty heavy dose of good barn-yard manure. Let the divisions be about three and a half feet width and as long as may be desirable. Set the plants about eighteen inches apart, insert them in the ground firmly and well up to the crown, and then keep clear of all grass and weeds.

As to the varieties, we should choose for our own planting the following: Triumph, Russell, and Hovey, and if we wished another, Jucunda. They should be planted in this wise in making up a full bed, with a half dozen or a dozen divisions: 1 Triumph, 2 Jucunda, 3 Hovey, 4 Russel. In this way a fine crop is assured with as much certainty as anything can be. The last of November protect the plants with straw the first year, after that if needed, light manure may be substituted as a covering.

A half crop may be expected the first season. A mulch of straw cut two or three inches long will keep the ground moist and cool, which this berry likes, and smother the weeds.—*Ed. Ger. Telegraph*.

THE CROPS.—From all parts of the country, says the *Southern Cultivator* of August, we are constantly receiving most cheering accounts of the growing crops. The yield of wheat has been especially good; and corn never was more promising. Cotton is backward, and the growth uneven, in many places, but good judges predict a crop of 2,000,000 bales. Upon the whole, the promise is very encouraging, and our people have abundant cause for thankfulness.

THE GRAPE CROP.—The reports of the grape crop in Ohio are very favorable, and the Cincinnati Wine Growers' Association have cheering intelligence from all quarters. They announce officially that the prospect is "that the yield of grapes this season will be unprecedented by any year since 1859. Such is the report all over the country. In most localities the fruit hangs in heavy and perfect clusters."

TOMATO WINE.—Take small ripe tomatoes, pick off the stems, put them in a basket or tub, wash clean, then mash well and strain through a linen rag; (a bushel will make five gallons pure,) then add two and half to three pounds of good brown sugar to each gallon, then put it into a cask and let it ferment as for raspberry wine. If two gallons of water be added to each bushel of tomatoes the wine will be as good.

COTTON CATERPILLAR—HOW TO KILL IT.

This dreadful scourge has made its appearance in Louisiana and Mississippi, and serious apprehensions are felt for the safety of the crop, as twenty days will suffice for it to destroy the cotton of an entire county. The East being liable to be visited by the worm at any time, we propose to collate the various remedies for its destruction that are now going the rounds of the papers, so that our planting friends may be able to fight the enemy upon his first appearance. Prof. Wailes, State geologist in 1854, recommended the use of torches at night immediately after the perfect immigo or moth emerges from its puparium or chrysalis state, and flies abroad, it being well known that firelight attracts insects of this class. If the hands of a plantation were each provided with a torch of pine wood, dried cane, or some similar material, and made to pass through the fields at intervals of five or ten rows apart, shortly after twilight had closed, myriads of the moth would perish in the flame, each of which would have deposited its hundreds of eggs in a few days. Others suggest powdering the leaves of the plant with finely pulverized quicklime, or the fumigation of each separate plant with sulphurous vapor produced by burning brimstone on chafing dishes, each plant being enclosed during the process in a tight canvass hood. A gentleman in Tensas parish, La., has tried unslacked ashes, sifted over the plant, with great success. One hand can protect from one to four acres per day. The ashes will have to be applied after every rain, and, it may be, oftener. Another planter on Red river has tried molasses and vinegar, and is fully convinced of its benefits, if not of its entire efficacy. He placed a number of tin plates on stands the height of the cotton throughout the field, about one plate to each acre, filling them with a mixture of molasses and vinegar, and has caught from 15 to 36 flies in each plate every night. An exchange suggests the use of carbonic or phenic acid. This plan, however, Mr. George W. Morse, of Natchitoches, who has been experimenting with the cotton worm for several years, pronounces impracticable. It might, he argues, produce the desired effect, if you can devise any means to touch them with it; but as the young worms are hatched and remain some days on the under side of the leaf, this will be found impracticable, unless, indeed, you catch each one and subject them all to its action, and then you might as well crush them at once. Fires in the field might destroy many of the moths; but whenever they appear in such quantities as to make that plan available, enough eggs would have been already deposited in the leaves to produce worms sufficient to destroy the crop. His plan is for the entire force on each plantation to turn out

and crush all the voracious insects and chrysalids that can be found, burning the leaves rolled up; and the proper time for this is during the stage in their existence when the worms roll themselves up in the leaves of the plant. We have given the different propositions for the destruction of the worm without comment, because we are not prepared to recommend any one of the modes of procedure enumerated, above another. The farmer must decide for himself which is the most efficacious remedy. Many are trying Prof. Wailes's plan, and on the Hurricane place in Warren county, we notice, with considerable success.—*Meridian Gazette.*

Buckwheat as a Green Crop.

Where this grain is sowed the 1st of August, it will be in condition to plow in for a rye crop the last of September. We have seen rye taken from a field four years in succession, with no other manure than buckwheat turned in at the time of sowing the rye. There was a constant increase in the yield of the grain, showing the benefit of the green crop. If the land is not strong enough to give a good growth of buckwheat, some manure will be necessary. A continued succession of grain crops does not show good husbandry, but it may answer for remote fields, where stable manure can not be applied economically. The green crops and the grain should come in a regular rotation, and if the soil is thin, several green crops may be turned in, in succession, with profit.—*American Agriculturist.*

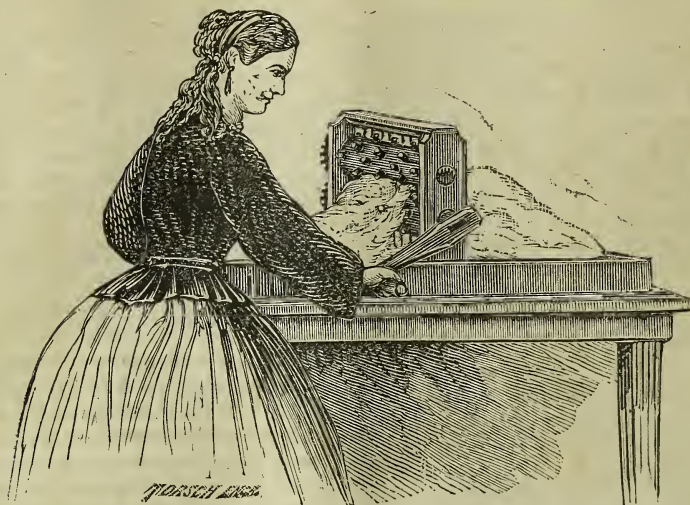
Wool.—The *Detroit Tribune* gives the following statement of the receipts of wool at that point during July:

	1867.	1866.
First week.....	450,020	548,010
Second week.....	1,111,860	1,077,069
Third week.....	1,398,698	679,766
Fourth week (five days only in '67) ..	731,890	535,262
Total	3,692,468	2,840,107

A letter from Buenos Ayres says the wool clip this year will be 100,000,000 lbs., and that the recent rise in the tariff of the United States has produced great dismay among the wool-growers. But, fortunately, for some years great efforts have been made to refine the wools of that country, and in proportion, the finer wools pay less duty. No wools will go to the United States this year but those that are fine and clean. The shearing would begin this year October 1st. The wool bids fair to be finer, cleaner, freer from burrs, and of better color than ever before.

IMPORTED FROM GERMANY.—Mr. Samuel J. Suit, a farmer of Long Old Fields, Maryland, has imported from Germany a number of swans, pigs, and a cow and bull. They arrived at Georgetown from New York on the 6th of August last.

ROUTT'S PATENT DOUGH KNEADER.



This is a very simple machine, as will be seen by reference to the cut. There are two rollers, one above the other, with projections or pounders. The knobs or pounders strike the dough both bottom and top as they revolve; above the top, and below the bottom roll, are a series of cutters, which more thoroughly enables the machine to perform its work, as the pounding and cutting into shreds is done at once. Mix the dough to a stiff consistency, apply to the machine, and a few minutes only is necessary to accomplish the work thoroughly. Manufactured by the inventor, A. P. Routt, Liberty Mills, Va.

BONES.—Dr. James R. Nichols, chemist, says, “a most excellent method of preparing bones for field use, is to dissolve or saponify the gelatinous portion by the employment of costic alkalies. For this purpose, take 100 pounds, beaten into as small fragments as possible, pack them in a tight cask or box with 100 pounds of good wood ashes. Mix with the ashes, before packing, 25 pounds of slacked lime, and 12 pounds of sal soda, powdered fine.—It will require about 20 gallons of water to saturate the mass, but more may be added from time to time to maintain moisture. In two or three weeks the bones will be broken down completely, and the whole turned out upon a floor, mixed with two bushels of dry peat or good soil, and after drying is fit for use.”

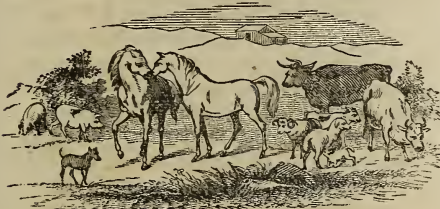
COMMENCEMENT EXERCISE AT WASHINGTON COLLEGE.—The eighty-sixth annual commencement of this institution, near Chestertown, Md., was held last week. The anniversary of the Mount Vernon Literary Society was held on Monday evening, on which occasion Frederick Stump, Esq., of Elkton, delivered the annual address. On Tuesday evening the junior exhibition took place. The commencement proper took place on Wednesday morning, when addresses were delivered as follows: “The Sorrows of Genius,” by J. E. Carroll, of Caroline county; “The Blue Stocking Question,” by B. F. Houston, Kent county; “History, its Charms and Lessons,” by J. E. M. Chamberlaine, of Talbot county; “Experience,” by S. T. Earle, of Queen Anne’s county; “Nineteenth Century,” by S. C. Tripp, Talbot county; “The Mutability of Human Affairs” and valedictory, by H. R. Johnson, of Delaware. Degrees were then conferred, and the baccalaureate address delivered by the principal, Rev. A. J. Sutton, A. M. All the exercises were interspersed with music. The degree of Master of Arts was conferred on Dr. W. T. Urie, of Kent.—*Chestertown News.*

THE UPLAND CRANBERRY.—There has been considerable discussion going on in private circles in this county, says the *Baltimore County Union*, for some time as to whether cranberries could be successfully cultivated, and if so, what variety was the most profitable. Our old friend, Robert Wylie, of Hookstown, in this county, sends us his experience in the “Upland” cranberry, which we transfer to our columns:

“The Upland cranberry is simply the ordinary Marsh cranberry transferred to dry soil. When thus transferred, it is so far removed from its natural condition that its cultivation is not attended with satisfactory results, unless irrigation can be resorted to. In the spring of 1866, I procured 1,000 plants from the North, and planted them in good but dry ground, with care and thoughtfulness, and have kept them clear of weeds and grass up to this date, (July 20, 1867.) Although many of them are yet alive, all the increase of growth made from the first to this time would not fill the bowl of a modern tobacco pipe. The results being doubtful, I would advise others to be cautious in attempting their culture in upland or dry ground.”

PROPER FARMING.—The *Roanoke* (Salem, Va.) *Times*, of August 3, says:—“On one hundred acres of land near Winchester, a farmer has, within the last year, realized in rent two thousand two hundred and forty-eight dollars, simply from the sale of the wheat and the corn raised on it, and excluding the amount realized from the sale of fodder, straw, fruit, and pasturage.”

Live Stock Register.



HINTS TO HOG GROWERS.

There are somethings about hog raising that ought to be generally known, yet to which many people appear to be utter strangers. One is, that shoats, (and hogs too, sometimes,) become stiff in the limbs without any apparent cause; commencing in their fore parts generally, and gradually extending over the whole system, until the animal becomes incapable of walking, or even of rising on to its feet; and when disturbed manifests symptoms of pain, and great reluctance to make any effort toward that end.

And, although the pig continues willing to eat, his appetite becomes disturbed and variable; diminishing from day to day, he pines away, until he becomes a confirmed and an emaciated cripple, unworthy of being longer cared for, and neglected, dies.

Now, to understand the cause of this trouble, it is necessary to know that inside of the fore-legs of every pig there are from five to seven small apertures or openings, from which (when all is right with his pig-ship,) exudes an oleaginous fluid, keeping the skin moist and supple, and that, without any cause of the why or wherefore therefore, appears to be an important adjunct to the health of the animal. From some cause, (generally local,) these apertures become clogged, the skin dry and chaffy, hard and rigid, when stiffness of the limbs supervenes, which stiffness gradually extends to the whole body.

The remedy for this evil is extremely simple, and only consists in well cleaning the inside of the fore-legs of the invalid, scrubbing well with soap-suds and a corn cob to remove the scales, yet not so hard as to rub off the skin, and gently open the orifices with the end of a smooth, steel knitting needle, and when dried anoint with a little clean lard, when he will soon be restored to his former activity and health.

But hogs are subject, from some unknown cause, to weakness in the back, (probably from kidney-worm,) and sometimes become so affected therewith

as to be unable to raise upon their hind-feet; a stroke over their loins, often a very slight one, will produce the same effect. When found in this condition, let its back, over the loins, be well bathed with warm water, and after it shall have become dry, pour thereon, along the spine, some spirits of turpentine, and in nine out of every ten cases, a cure will be effected.

A great evil to hog-raisers is that to which little pigs are so often subjected, known by the name of "scours." This is much to be dreaded; for if not soon checked, the most robust and vivacious little fellows will waste away to an unsightly skeleton and ultimately die. With pigs of sufficient age to feed at the trough, this is often produced by over-feeding with something of too loosening a nature; but young pigs that derive their nourishment only from their mother are also liable to the disease.

When you find your pigs exhibiting symptoms of this complaint, confine them in a clean, roomy pen, and feed them upon a strong decoction of clover hay, (made by boiling or pouring boiling water upon the heads and leaves of clover hay,) into which stir as much oat-meal as will make a thick gruel; if you cannot obtain oat-meal, substitute wheat flour, or middlings, but in no case use corn-meal, as it will only aggravate the complaint. By way of variety, you may give, occasionally, a little whole oats with a very good effect. Where the pigs are too young to be treated thus, and derive their support only from sucking, the sow and her progeny must be similarly confined, and subjected to the same regimen of living, as the pigs will draw from her under the curative properties of the food she partakes.

It sometimes happens, (as hogs are proverbial for stubbornness,) that sows, especially with a first litter, refuse to acknowledge the maternal relation; and like some of our own species, endeavour to discard their offspring. This is a little troublesome, but it does not necessarily follow that the helpless little fellows shall either be raised by hand, (which can hardly be done,) or brought up by adoption.

When a case of this kind shall occur, after the sow has ceased labor, enter the pen quietly and catch the sow, placing her upon her side, and whilst one person at her back, with his knees gently pressing upon her to keep her down, and a hand over her to each set of feet to keep her from struggling, another one places the pigs in position at the teats, which they sometimes refuse until the nipple be wet with new milk, when they readily take hold and require little invitation afterward. After the pigs have sucked they must be removed before letting go of the sow, if she still remains belligerent, or she may injure them in her haste to rise and get away, but if she utters that short and continuous lively

grunt that sows are known to do when their pigs are sucking, it shows that she is becoming reconciled, and little danger may be apprehended; but sometimes, from the manifestation of a refractory spirit, it will be necessary to repeat the coercive process, which must be done as gently as possible, and a second trial rarely fails to induce the sow to take to and become reconciled to her young brood.—Whilst I have known them to become reconciled and passive upon the first trial, so as to continue quietly permitting the pigs to suck, after the attendants have retired, I have, in a few cases, had to apply compulsion a third time before the sow would succumb, but this is rare, as a second trial scarcely ever fails to succeed.

Some people appear to have a dread of what is termed the "*black-tooth*"—attaching a great deal of evil to its presence. For my part, (although in conformity to common usage I had them extracted, if found to exist, when the pig was brought up for some other purpose, as I never sought purposely for them,) I think there is very little harm resulting from them, or to be apprehended from their continuance; but as they appear to be wholly supernumerary and of no utility to the possessor, with a small punch and a hammer, if no forceps or pliers be convenient, they may be very easily and quickly removed with very little trouble to the operator or pain to the patient.

The "*mange*" (which has been treated in a former number,) is indeed a hateful complaint, and one justly to be dreaded. I need only refer to it here to say in addition to what has already been said upon the subject, that if the mode of treatment there recommended fails to effect a cure, give the diseased pig a feed or two of hog's lard, and after the scrubbing of soap-suds, (weak lye is better,) when dry anoint it all over with lard. This seldom fails to produce the desired effect. Let me here say, that much care is necessary to prevent contamination; since this disease is as contagious among swine as the *scabies* with the human species; nay, I have even known it to be communicated to those who were engaged in scrubbing and cleansing the infected subject; inflammation in the skin, and eruptions exhibited upon the arms, extending almost to the body, where the disease has much abounded, it is difficult to get rid of it. The very sty, pens, and yards seem to be infected and impart the noxious disease to all the subsequent occupants. In order then to drive it from the premises, it will be necessary that each apartment undergo a thorough cleansing; not simply a sweeping out, but an effectual washing out, succeeded by a good whitewashing of the houses and pens, and a plentiful sprinkling of quick-lime about the floors and yard. By this process the premises may be disinfected and a

healthy atmosphere restored; but no half-way measure will suffice. I have known the disease to occur year after year in regular succession, after the sweeping process, for half a dozen years, but after the free application of the liming, and a change of stock, there was no more recurrence of the disease.

The "*malignant sore throat*" in swine appears also to be contagious, but only by communication, since places where it has been prevalent one season have not been troubled with it subsequently. It follows, then, that the sick should be immediately separated from the well pigs, and that at such a distance that one cannot inhale the infected air of the other. Hogs are hard things to doctor; and very little can be done in this complaint, as, being very stubborn, they soon refuse to eat; and if you assume the responsibility of endeavoring to enforce a prescription, they make such a horrid noise about it, it is even questionable if the remedy be not worse than the disease.—J. B. M. in *American Stock Jour.*

Measures of Surface, or How to Measure an Acre.

As the time is at hand, when our patrons may be laying of their experimental plots of ground, we have thought that it would save them trouble if we were to place before them a table of distances, each of which would include an exact acre. The usual course with most farmers is to step off 70 yards each way for an acre, but this gives 4900 square yards, and as there are but 4840 square yards in an acre, there is an excess of 60 square yards, as determined by the above rule. And as accuracy as to quantity of land, should always be sought in every experiment, we have calculated the following table of distances, each of which contains an exact acre:

A plot of ground

5 yards wide, by	968 yards long, contains	1 acre
10 " "	484 " "	1 acre
20 " "	242 " "	1 acre
40 " "	121 " "	1 acre
80 " "	60½ " "	1 acre
70 " "	69½ " "	1 acre
220 feet	198 feet	1 acre
440 " "	99 " "	1 acre
110 " "	369 " "	1 acre
60 " "	726 " "	1 acre
120 " "	363 " "	1 acre
240 " "	181½ " "	1 acre

AUGUSTA COUNTY AGRICULTURAL SOCIETY.—The county of Augusta, Va., has recently inaugurated an agricultural society, under flattering auspices. The best and most prominent of her citizens have taken hold of the matter, elected the officers, purchased the grounds, and will soon have the whole enterprise in a living condition.

"AN ITEM OF INTEREST."—Computation of interest at 7-30 per cent. is a difficult operation for people who have not observed that 730 is 365, and that 7-30 per cent. per annum is accordingly two cents a day on every hundred dollars.

Ladies Department.

Original.

TEARS, BITTER TEARS.

BY ANITA NEYLE, OF CHARLESTON, S. C.

Why comest thou, Sorrow, in sable garb clad,
Bearing grief to the hearthstone, and memories sad;
Why breakest the flower, which in beauty hath bloomed,
Its loveliness cheering the hearts that are doomed
O'er one little hillock to mourn and to weep,
Tears, bitter tears, from fountain so deep.

Why invade the fair home in which happiness dwelt;
Why darken the shrine before which we're knelt;
Why cast a shadow on life's weary way,
The dimness of night-time taking place of the day.
O'er one little hillock we mourn and we weep,
Tears, bitter tears, from fountain so deep.

Dispersed, the bright vision; ah! fearful the woe,
For treasures of love our hearts did bestow;
Grief's galling wound; ah! why didst thou come,
Sorrow, to darken our once happy home.
O'er one little hillock we mourn and we weep,
Tears, bitter tears, from fountain so deep.

I come like the North Wind, with pityless blast,
I chill many hearts, and over them cast
The pall of misfortune, a midnight of gloom,
With no ray of sunshine to lighten the doom.
O'er one little hillock ye mourn and ye weep,
Tears, bitter tears, from fountain so deep.

Death is my hand-maid, we smile as we roam,
Mid Princes and Peasants; 'e'en on the sea foam
Of high rolling billow, we watch the dark cloud,
Which betokens the tempest, frail barks to enshroud,
We gather the flower which in beauty has burst,
We break the light stem, so tenderly nursed,
We joy in destruction, we blast the full sheaves;
Death breathes on the petals, I scatter the leaves.

SAVANNAH, GA., May 15, 1867.

FOR THE MARYLAND FARMER.

AFTER LONG YEARS.

BY MRS. GEORGIE A. HULSE M'LEOD.

In the summer sunlight a little boat was launched, and with snowy sails spread, it glided onward like a thing of life. Blue sky above and tranquil waters beneath—what brighter omen could it have? "None!" was echoed in the song of the birds that seemed to follow it from shore; and "None!" was on the lips and in the heart of him who gazed joyously around the proud owner of the fairy bark. Onward it glided, gaily glided, with the stream in the morning sunlight, pausing often in the noontide, in the shelter of green islets, quiet, shady nooks, rocking idly near the shore, the white sails furled and the young master of the craft dreaming waking dreams, watching with bright eyes the rippling waters ebb and flow over the pebbly shore; drinking in, as it were, sweet draughts from the gladness and the beauty all around him.

In the evening hour afloat again, its course still onward, the little vessel sped. The stars looked brightly down upon it, and the night breeze softly kissed the brow of the sleeper that it bore, drifting on towards the sea, the great ocean of life.

Such, the record of a day. Other days came and went with changing skies and stormy winds—days and years out upon life's ocean.

The voyage was long and often dreary. To the life whose morning was cloudless, whose noontide was sunny, dark hours of sorrow came. Those who smiled upon the voyager in childhood, in youth, in graver manhood, parted from him one by one as the twilight came on.

The winter was upon him, when, after long years, he came

with feeble step back to the shore where his bark was launched. Changed—ah! how changed it was! The birds sang no longer; the forest trees were felled, and where broad meadows had smiled in the sunlight—where the quiet shadow of the hills once tempted him, now rose the smoke and din of the city. The housetops gleamed white in the winter snow—the tall steeples rose high above them, and in the streets crowds hurried to and fro in the dim evening, but not a face was there he knew.

He had come back to his childhood's home, this weary worn old man, but it was left unto him desolate. It was the old story of chance and change. Life's voyage had been prosperous, as men count it, but from affection's garland the buds and blossoms had fallen, and the aged pilgrim stood alone!

Nay, not alone, for beyond the sky, above the stars, his treasure was laid up. A few more trembling steps, a few more days and nights of waiting, and he would go forth once more upon the river. Through the dark valley he must pass; but a shining shore lay bright beyond. The beautiful city gleamed golden in perpetual sunlight. The songs of the angels floated softly over the waves, bidding him "Come home!" After long years of toil and waiting, his work was done, well and faithfully done, and his hour of rest was at hand—the crown was nearly won—the heavens almost reached. The years of life were blending with the endless days of eternity.

Southern Literary Institute, Baltimore, Aug. 22, 1867.

A Young Minister Hugged Against His Will.

The Louisville *Courier* tells of a most ludicrous scene that transpired in a place not a thousand miles from that city, one night last week, which, though a little annoying to the parties immediately concerned, was yet so innocent and funny that we cannot refrain from giving the general outlines, suppressing names of course.

Two sprightly and beautiful young ladies were visiting their cousin, another sprightly and beautiful young lady, who, like her guests, was of that happy age which turns everything into fun and merriment. If the truth were told, we fear that we should have to record the fact that these three Misses were just a little bit fast. They were fond of practical jokes, and were continually playing all sorts of mad pranks with each other. All three occupied a room on the ground floor, and cuddled up together in one bed.

Two of the young ladies attended a party on the night in question, and did not get home until half-past twelve o'clock at night. As it was late they concluded not to disturb the household, so they quietly stepped into their room through the open window.

In about half an hour after they had left for the party, a young Methodist minister called at the house where they were staying and craved a night's lodging, which of course was cheerfully granted. As ministers always have the best of everything, the old lady put him to sleep in the best room, and the young lady (Fanny) who had not gone to the party was entrusted with the duty of sitting up for the absent ones and informing them of the change of rooms. She took up her post in the parlor, and as the night was sultry, sleep overcame her and she departed on an excursion to the land of dreams.

We will now return to the young ladies who had gone into their room through the window. By the dim light of the moonbeams, as they struggled through the curtains, the young ladies were enabled to descry the outline of Fanny (as they supposed) ensconced in the middle of the bed. They saw more, to wit—a pair of boots! The truth flashed upon them both at once. They saw it all. Fanny had set the boots in the room to give them a good scare. They put their heads

together and determined to turn the tables on her. Silently they disrobed, and as stealthy as cats they took their positions on each side of the bed. At a given signal they both jumped into bed, one on each side of the unconscious person, laughing and screaming, "Oh, what a man! Oh, what a man!" They gave the poor bewildered minister such a promiscuous hugging and tousling as few persons are able to brag of in the course of a lifetime.

The noise of this proceeding awoke the old lady, who was sleeping in an adjoining room. She comprehended the situation in a moment, and rushing to the room she opened the door and exclaimed: "My God, gals, it is a man; it is a man sure enough!"

There was one prolonged, consolidated scream; a flash of muslin through the door, and all was over.

The best of the joke is that the minister took the whole thing in earnest. He would listen to no apology the old lady could make for the girls. He would hear no excuse, but he solemnly folded his clerical robes around him and silently stole away.

QUERY.—Was he mad at the girls, or—at the old woman?

We take pleasure in gratifying our little "Toch," of Howard, by giving her "Tender and True" to the world. We have seen many a warm heart caught by a sweet and pretty song, who, in after years, had no cause to declare "love a myth."

Original.

TENDER AND TRUE.

BY TOCH.

"I'll be tender and true, tender and true;"

'Tis *ever* thus you sing, sir;

And if I say "Nay!" you look very blue,

But I vow you shall not win me with *songs*, sir.

I'm fair as the —; yes, yes, don't I know it?

My eyes are as blue —; away with your praise, sir!

This love is a myth: out the window 'twill fit

If we merge *two* into *one*, sir.

May God bless me forever?

Ah! that is a prayer—what! not going, I hope, sir?

Well, we all have our fancies—Come—to-morrow, or—never!

A *woman* may change her mind, sir.

Liberty of the Press.

Around her waist I put my arm—

It felt as soft as cake;

Oh dear, says she, what liberty

You printers take!

Why, yes, my "Zeb," my charming gal,

(I squeezed her some, I guess,

Can you say aught, my love, against

The freedom of the Press?

I kissed her some—I did by gum,

She colored like a beet;

Upon my living soul she looked

Almost too good to eat!

I gave another bus, and then

Says she, I do confess

I *rather kinder sorter like*

The freedom of the Press.

COURTING.—As this is a subject thought of in all seasons, we publish the following, gotten off evidently by a chap who knows a thing or two:

Jennie sighed, and Robin squeezed her

Pretty little trembling hand,

Then, with clasping arm he seized her

Half reluctant form, and—and—

"Loose me!" but he clasped the tighter—

"Jennie, say, wilt thou be mine?"

Then her bright face grew much brighter,

And she whispered, "I am thine."

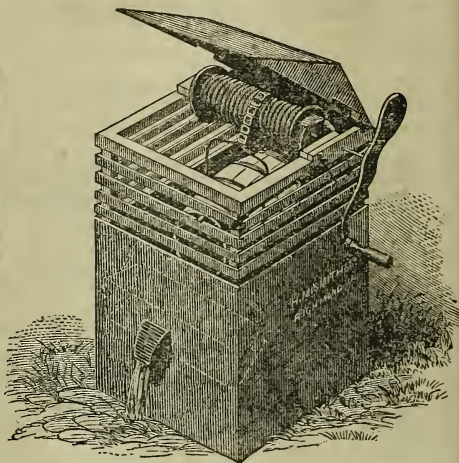
They then clasped each other fondly,

Close together as two bricks,

And they kissed each other fondly,

And—I left them in that fix!

IMPROVED PATENT WELL FIXTURE.



The above cut represents an improved Water Elevator, or Well Fixture, patented by Messrs. H. M. Smith & Co., of Richmond, Va. A glance at the cut will give an idea of the principle of the invention. The bucket having a valve in the bottom, the water can be drawn from the very bottom of the well, thus procuring it cooler, and clearer. In its descent the bucket can be checked or stopped at any desired point by means of a break ingeniously arranged.

The general adoption of this fixture in communities where wells are depended upon, will unquestionably conduce to public health by securing pure water.

The old wooden pump stock with its constant decay, the modern iron pump with its rust, and the corrosion of lead pipes, all tend to impregnate the water with impurities damaging to the health of man and beast. This fixture having latticed sides, and a tight roof, secures the perfect ventilation of the well, and at the same time prevents any foreign matter from falling into the water. The whole machine is so simple that a child can understand and use it.

NEW ADVERTISEMENTS.

Rhodes Standard Manure—B. M. Rhodes & Co., Balto.

Cider Press Screws—Rumsey & Co., Seneca Falls, N. Y.

Chilian Wheat—Fitzgerald, Booth & Co., Baltimore.

Live Stock of all kinds—L. B. Silver, Salem, Ohio.

Sewing Machines—Family Sewing Machine Co., No. 103

Nassau street, N. Y.

Southern Literary Institute—Mrs. Georgie A. Hulse McLeod, Baltimore.

Diehl Wheat—Edward J. Evans & Co., York, Pa.

The Commercial Monthly—Kephart, Crider & Brother, York, Pa.

Lodi Manufacturing Company—66 Cortland street, N. Y., and Thomas Baynes & Son, 139 McDerry's wharf, Balto.

STATE FAIRS FOR 1867.

The following State Fairs will be held at the place and time designated:

American Institute.....	New York.....	Sept. 13, Oct. 26
American Pomological.....	St. Louis.....	Sept. 11, 14
California.....	Sacramento.....	Sept. 9, 14
Canada West.....	Kingston.....	Sept. 23, 27
Illinois.....	Quincy.....	Sept. 30, Oct. 5
Indiana.....	Terre Haute.....	Sept. 30, Oct. 4
Iowa.....	Clinton.....	Oct. 1, 4
Iowa Central.....	Des Moines.....	Sept. 15, 27
Kansas.....	Lawrence.....	Sept. 24, 27
Kentucky.....	Louisville.....	Sept. 17, 20
Louisiana.....	Baton Rouge.....	Nov. 5, 9
Mechanics' and Agricultural Fair Association.		
of Louisiana.....	New Orleans.....	Nov. 19, 26
Michigan.....	Detroit.....	Sept. 10, 13
Minnesota.....	Rochester.....	Oct. 1, 4
National Horse Show.....	Springfield, Mass.....	Aug. 27, 30
New England.....	Providence, R. I.....	Sept. 3, 6
New Jersey.....	Newark.....	Sept. 3, 6
New Hampshire.....	Nashua.....	Sept. 10, 12
New York.....	Buffalo.....	Oct. 1, 4
Ohio.....	Dayton.....	Sept. 23, 27
Pennsylvania.....	Pittsburgh.....	Sept. 24, 27
St. Louis Association.....	St. Louis.....	Oct. 7, 12
Tennessee.....	Clarksville.....	Oct. 15, 19
Vermont.....	Brattleboro.....	Sept. 10, 13
Wisconsin.....	Madison.....	Sept. 23, 27
Wisconsin Ag. & Mech.....	Milwaukee.....	Sept. 10, 13

The Executive Committee of the Maryland State Agricultural Society will not be able to make arrangements to hold a State Fair this fall. They have not yet decided upon suitable grounds, and cannot possibly do so in time to give an exhibition in October next.

BALTIMORE MARKETS --- Aug. 27.

Prepared for the "MARYLAND FARMER" by JOHN MERYMAN & Co., BALTIMORE.

[Unless when otherwise specified the prices are wholesale.]

ASHES.—Pot \$9.25; Pearl \$12.50.	
BEESEWAX.—38@42 cts. per lb.	
COFFEE—Rio 17@18½ cts. sold.	
COTTON—	
Upland.	Gulf.
Ordinary.....@— cts.	—@— cts.
Good Ordinary..23 @23½ cts.	—@— cts.
Low Middling..24 @25½ cts.	—@— cts.
Middling.....27 @27½ cts.	—@— cts.
FEATHERS.—Common 42@48 cts; fair 55@65 cts.	
FISH.—Mackerel—No. 1 Bay \$19; No. 1 Shore \$20; No. 2 \$14; No. 3 \$10.50; Labrador Herring \$5.50@6.50; Halifax \$5@5.50; Potomac \$4@5.25; Shed \$10@10.50.	

FLOUR—	
Howard Street Super and Cut Extra.....	\$ 9.00 @ \$9.75
“ “ Shipping Extra.....	10.00 @ 10.50
“ “ Retailing.....	11.00 @ 11.50
“ “ Family.....	12.00 @ 12.50
Ohio Super and Cut Extra.....	9.00 @ 9.50
“ Shipping Extra.....	10.00 @ 10.50
“ Retailing Brands.....	11.00 @ 00.00
“ Family.....	11.50 @ 12.00
Northwestern Super.....	8.25 @ 8.75
do Extra.....	9.50 @ 10.00
City Mills Super.....	9.25 @ 9.50
“ Standard Extra.....	10.00 @ 10.25
“ Shipping Extra.....	11.50 @ 12.00
Baltimore, Welch's & Greenfield Family.....	13.50 @ 00.00
High grade Extra.....	12.50 @ 13.00
Middlings.....	0.00 @ 0.00
Fine.....	0.00 @ 0.00
Rye Flour.....	9.00 @ 9.50
Corn Meal—City Mills.....	5.50 @ 00.00
FRUIT—Apples 5@7 cts.; peaches, 10 cts.	

FERTILIZERS—	
No. 1 Peruvian Guano.....	\$ 23 ½ ton of 2000 lbs.
Soluble Pacific Guano.....	65 ½ ton “
Ronduna Guano.....	30 ½ ton “
Flour of Bone.....	65 ½ ton “
Turner's Excelsior.....	70 ½ ton “
Turner's Ammo. S. Phos.....	55 ½ ton “
Coe's Ammo. S. Phos.....	60 ½ ton “
Lister Bros. Fresh Bone Sup. Phos.....	55 ½ ton “
“ Pure Bone.....	45 ½ ton “
Andrew Coe's Super-phosphate..	60 ½ ton “

Baugh's Raw Bone S. Phos.....	56 ½ ton “
Zell's Raw Bone Phosphate.....	56 ½ ton “
do. Super Phosphate of Lime.....	60 ½ ton “
Rhodes' S. Phos.....	57½ ½ ton “ bags.
Rhodes' do.....	55 ½ ton “ bbls.
Mapes' do.....	60 ½ ton “
Bone Dust.....	45 ½ ton “
Horne's Bone Dust.....	42.50 ½ ton “
Dissolved Bones.....	56 ½ ton “
Baynes' Fertilizer.....	40 ½ ton “
“ Fine Ground Bone.....	45 ½ ton “
“ Poudrette.....	20 ½ ton “
Plaster.....	18 ½ ton 2340 lbs.
“A A” Mexican Guano.....	33 ½ ton of 2000 lbs.
“A” do.....	30 ½ ton “
Moro Phillips' Super-Phosphate..	56 ½ ton “
Berger & Burtz's S. Phos. of Lime	55 ½ ton “
Plaster.....	\$2.25 ½ bbl.
Sulphuric acid, 4½ c. ½ lb.—(Carboy \$3.)	

GRAIN.—Wheat—Prime red \$2.40@2.42; choice do. \$2.45; fair to prime \$2.25@2.35; ordinary \$2.10@2.15; inferior \$1.80@1.90. No choice samples of white coming in. We quote inferior white \$1.75@2.3; common to good \$2.20@2.35. Corn—White \$1.03@1.08; yellow \$1.15@1.16; Oats—60@63 cts. Rye—\$1.35@1.45.

HAY AND STRAW.—New Hay \$22@24; old \$25@28. Rye Straw \$24@30.

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